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BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Hints concerning the Highland Society of Scotland.

SIR, *London, 2d May* 1808.

I OBSERVED, a few days ago, in our newspaper called The Oracle, or True Briton, an account of the whimsical origin, and now extensive utility and influence, of the Highland Society of Scotland, wherein it is said, that there is scarcely a person in that country who bears the name, or aspires to the character of a gentleman, who is not solicitous to become a member. It is said, at the same time, that the Highland Society of London, who have been heretofore chiefly distinguished as a convivial association, have it in contemplation to adopt some of the laudable and beneficial plans of their sister society, particularly in the establishment of a Caledonian Asylum in London, for the reception and education of the children of soldiers, sailors and marines, who have served a certain time, or who have been wounded, or fallen in battle; and for the establishment of a Gaelic chapel, where divine service is to be performed every Sunday in the Gaelic or Erse language.

In consequence of the appearance of this paper, I have been induced to send you the following hints.

Of all the institutions that do exist, or have existed in Scotland, for a number of years past, I have always considered the Highland Society as the most truly patriotic, and, from the number, wealth, and influence of its members, the most extensively useful. Even

at this distance, I take particular pleasure in observing the accession of new members, at the periodical meetings in January and July annually, and have been highly gratified to see these members not belonging to the Highlands only, but to every corner and district of Scotland; and to include not only noblemen and gentlemen of landed property, but also gentlemen in the military and naval lines, of the professions of law and medicine, in the department of commerce and manufactures, clergymen, and indeed of every vocation whatever. As every person is concerned in the objects of the Society, so, every one appears to have come forward with alacrity to promote them.

Sorry I am to mention one exception to this general accession, in a part of the country which, I believe, is justly reckoned the most populous, wealthy, thriving, and industrious district of Scotland,—I mean the city of Glasgow, and its vicinity. Glasgow, with the neighbouring and connected towns of Paisley, Greenock, Port-Glasgow, Dumbarton, Renfrew, and Kilbarchan, and the intermediate villages, I calculate to contain 150 to 160,000 inhabitants, or about one tenth of the population of Scotland, who all depend on the produce of the soil for their subsistence; and from all this great population, I am able to reckon only a very small number who have thought it proper to become members of the Highland Society. I am well aware that the gentlemen of Glasgow, Paisley and the vicinity, may allege, that while they promote manufactures and foreign commerce, they indirectly promote agriculture, and that no further direct interference falls within their line. But surely, as no description of gentlemen in Scotland are more interested in having always a ready and plentiful supply of corn for the numerous hands which they constantly employ, and for having the price of this corn at a moderate rate, I infer that no description of gentlemen whatever are more interested in promoting and forwarding the objects of the Highland Society than the gentlemen of Glasgow and the neighbourhood. I do not keep out of view the facility with which they have the means of importation.

But, independent of secondary considerations, many gentlemen of Glasgow, Paisley, and the neighbouring towns, are themselves very considerable land-proprietors, and have, of consequence, as much interest in promoting the improvement of their estates, and in introducing an improved system of agriculture into that part of the country, as the gentlemen of the Highlands, or any other district of Scotland who have so generally and liberally come forward to second the views of the Society. It is the more to be wondered at, that the gentlemen of the West Country have been so backward in joining this institution, as they have been,

been, at all times, and on all occasions, eminent for their public spirit and promptitude, in promoting every plan that could forward the general interest of the country. Witness the extent and perfection to which they have brought the muslin manufacture, the silk gauze manufacture, the arts of dyeing and bleaching, the iron manufacture, thread-making, sugar-boiling, ship-building, leather-dressing, glass-making, incle-working, different chemical processes connected with trade, and, in a word, every great commercial concern in which they have embarked.

For these reasons, the country had reason to expect, that the West Country gentlemen would have come forward promptly, and joined this patriotic Institution. With equal spirit, liberality and good taste, we have seen them within these few years erect a theatre, which is second only to those of the capital of the British empire itself in extent and magnificence. In the same period, we have seen them raise the first monument in Britain to our immortal naval hero, NELSON. When we see the public and private buildings in their city, we have equal reason to applaud their magnificence, generosity, and public spirit; and, when we view the country in the vicinity of Glasgow, Paisley, and the other towns in the district, we must be convinced that the proprietors evince not only great skill in the cultivation, but a liberal expenditure of money; and, notwithstanding their backwardness in joining the Highland Society, we have seen the Directors, with equal public spirit and good judgment, appropriate part of their funds to the encouragement of agriculture in the neighbourhood of that city, and one of their largest premiums offered for the best account of a part of Lanarkshire.

The annual contribution to the funds of the Institution is such a mere mite, that it never can be an object with any one; and, therefore, we must attribute the backwardness of the Glasgow gentlemen to inattention; and it was with a view to draw their notice to this object, that I have ventured to suggest this delicate hint. Sorry, truly sorry should I be, if, by giving the hint in this public manner, I should give the slightest offence to the Glasgow gentlemen; but it occurred to me that a memento was wanted, and I could not think of any other such appropriate mode of conveying it. And if this public, well-intended suggestion, shall have the effect of procuring only one additional member, the purpose I had in view will be in so far answered. I am, with due respect for the gentlemen of Glasgow, and for you,

AMICUS SCOTIÆ.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on the Utility of Summer-Fallow, and a proper Rotation of Crops, as Antidotes for the Diseases of Corn Plants.

SIR,

THE following *hints* concerning fallowing, and adhering to a proper rotation of crops, as being antidotes for some *diseases* in plants, were committed to paper several months ago for your perusal. But though I sincerely wish to promote the success of your useful Miscellany, I am not sure if these loose hints will serve that purpose; therefore, transmit them with some hesitation. To your judgment, however, I now commit them; and, whether they may be thought worthy of a corner in your Magazine, or not, I hope you will accept of them as a mark of regard and esteem from, Sir, your humble servant,

Dublin, 1808. J. B.

The art of raising upon the soil grain and other plants, in the greatest possible degree of perfection and abundance, is the chief study of every agriculturist. A natural question arises, How is this to be done? The answer is short. Put your soil into a state of fertility; keep the crops free from *disease*; and allow no weeds to rob them of the nourishment which the soil is capable of affording.

The farmer must endeavour to rectify, by *art*, any natural deficiency that may be in the fertility of the soil. The component parts of fertile soils are understood to be clay, sand, and calcareous earth, mixed in such proportions, that they are neither too close, nor too porous; that is, the sand draining off the moisture in wet weather, and the clay and calcareous earth, by their attraction for water, retaining it in drought. Upon soils of the last description, the plants are neither too much overcharged with moisture in a wet season, nor run the risk of perishing of *thirst* in a dry one. If to such a soil you add dung, or other decomposed organized matter, the field will then be in the most fertile state possible. Presuming that the soil is such as here described, how are we to prevent diseases from affecting our crops, and robbery being committed upon them by weeds? The best remedy hitherto discovered, is a proper rotation of crops, and fallowing the ground, when necessary, during the summer months.

But to lay down a proper rotation of crops, and to know when fallowing is required, we must have some knowledge of the *physical causes* which make these operations necessary. This cannot be

be acquired without studying the nature of the plants which we wish to cultivate, and the *diseases* to which they are liable.

The Great Author of Nature has so ordered matters, that plants, as well as animals, are liable to disease at every period of their lives. Many perish prematurely, and others linger on in a sickly state, to the natural period of their existence. The curing diseases of animals has long been a principal study with mankind; but the diseases of plants have been little attended to; and, when observed to be *sickly*, the real cause is generally overlooked, and ascribed to want of fertility in the soil. But this is by no means so frequently the cause of their sickly appearance as is imagined; for plants often fall into decay upon a rich fertile soil, as animals will sometimes contract diseases upon a rich luxuriant pasture. The causes of such decay in plants, are *infectious diseases*; which diseases may, in a great measure, be prevented, by fallowing, and a proper rotation of crops. The diseases for which this mode of management is an antidote, may be divided into two classes,—those that attack the plants in their stems and leaves, and those that attack the roots. The former resemble cutaneous disorders in animals,—the latter, diseases in the intestines: the former the most frequent,—the latter the most deadly, and worst to eradicate.

Cutaneous diseases in plants are chiefly occasioned by insects.* Nature has destined every plant to nourish numerous tribes of them. Some insects, in their caterpillar state, are large and easily seen; others are so minute as only to be discovered by the assistance of a good glass. These latter, though invisible to the eye, are often so numerous, that they suck the juices out of the plants, so as to occasion *disease*, and frequently death. To counteract the attacks of these formidable enemies of our crops, we must look into the book of nature for a remedy; and luckily, one presents itself to us. I have mentioned, that every plant is destined to nourish various tribes of insects; but few insects, that generate above ground, can live upon a variety of plants. The greater number can only exist upon one plant, or plants of a similar nature. This *natural fact* puts these hosts of enemies more under our power, than at first sight they would seem to be, as, by a rotation of crops, and fallowing, you may keep them so in check, that their attacks will by no means be dangerous. If a field of cabbages, for instance, are infected with the caterpillar of the white butterfly,—if cabbages are continued to be planted on it, the ravagers will increase, having plenty of food provided for them; but, sow the field with a crop of grain,

* Forsyth on Fruit Trees.

and they muſt all periſh, as the fly cannot then find a proper nidus to depoſit her eggs upon. It is exactly the ſame with every other inſect, however minute in ſize. Should your wheat be infected with *ruſt*, follow up your rotation with a green crop, upon which the animalcule cannot exist, and you clear the field of the diſeaſe.

The natural hiſtory of inſects is very intereſting to the farmer. They propagate moſtly from eggs; but claſſes have been found to bring forth their young in a living ſtate. * Many tribes propagate on animal ſubſtances, and are carniverous; but I do not mean to enter fully into the natural hiſtory of inſects. I only notice it ſo far as to ſhow, that, whatever their habits of living may be, or however minute in ſize they may appear, they all poſſeſs the power of generating their own ſpecies, and that none of them are produced by *equivocal generation*. It is evident, from the nature of theſe vermin, that a rotation of a white and a green crop alternately, will clear the ground of them moſt completely, by ſtarving them to death in their infancy; and thus the crops may be kept free from all diſeaſe occaſioned by inſects that are annually, or oftener, produced from the egg.

A rotation of crops gives the farmer an opportunity of clearing his fields likewiſe of all annual weeds. Many of the green crops are raiſed in greater perfection in drills than otherwiſe. By carefully hand-weeding and horſe-hoeing drilled crops, you may ſoon get the better of ſuch robbers of your ſoil, and prevent them from doing injury to your crops in future.

But you cannot clear your fields ſo eaſily of ſuch enemies as are not annually produced from the ſeeds or eggs. The diſeaſes affecting the *roots* of plants are generally occaſioned by inſects of this nature. They are generated below ground; and numerous tribes of them live in the ſtate of grubs for years. A rotation of crops has little or no effect upon them, as many of them live equally well upon the roots of a variety of plants. The tribes of inſects of this deſcription are numerous; but the natural hiſtory of ſuch as are minute, have not been, and probably never will be aſcertained. We are, however, acquainted with the nature of ſome of them. The cockchaffer, it is well known, lives three years under ground, in form of a grub, devouring the roots of every plant that comes in his way. He at laſt changes into a chryſalis, from which he burſts forth a winged beetle, and is then only able to propagate his kind. † It is thought that many of the ſcarabeous inſects have ſimilar natures. A rich loam, of rather a light nature, is the ſoil moſt liable to be infeſted with ſuch vermin;

* Dr Anderſon's Recreations. † Ibid.

min; and when they have once gotten poſſeſſion, they are not eaſily driven out. A ſummer-fallow is the beſt remedy for this evil, hitherto diſcovered; but it muſt not be executed in a ſlovenly manner, otherwiſe it will do no good. To have its proper effect, the ſecond furrow ſhould be given in April, and not a weed allowed to be ſeen upon it for ſome months after. By frequently ploughing and harrowing the ſoil, you not only give an opportunity for rooks and other birds to pick up the grubs, but you ſtarve them to death for want of food. Theſe vermin cannot be deſtroyed otherwiſe than by a ſummer fallow. Winter ploughing has no effect upon them. During that ſeaſon, they ſink deep into the earth, and lye in a dormant ſtate, requiring no food. As the warmth of ſummer approaches, they become alive, active, and moſt voracious. They then riſe near the ſurface in queſt of food; and then, and then only, you have it in your power to deſtroy them.

Let the farmer avail himſelf of these natural facts; let him endeavour to counteract the workings of nature which are againſt his operations, by every means that are within his power. He ſhould take every advantage, which a rotation of crops affords him, of deſtroying weeds and vermin; but when that will not make his fields clean and ſound, a ſummer-fallow ſhould be reſorted to. Many plants alſo infeſt arable fields that are not annually produced from the ſeed, but ſpring from every *chip* of the roots that may be left in the ſoil. When a field is much overrun with ſuch plants, the beſt, and often the cheapeſt way to get clear of them, is by a complete fallow.

Many errors have been committed in agriculture, by founding theories upon falſe principles. Were we able to perceive always correctly the manner in which nature operates, we could never go very far wrong; but we often miſtake her operations, and imagine that other cauſes than the real ones have produced the effects which we obſerve. We *may* build theories founded upon ſuch falſe obſervations, which ſhall appear very ſatisfactory; but they will ſoon ſhow the falſe foundation upon which we have built, from the *reſults*, when put in practice, not anſwering our expectations. Nature, and nature's laws, have been the ſame ſince the days of Noah. There is nothing *new* in her operations under the ſun. Mankind have an itching deſire after novelty; and often imagine they have made a new diſcovery, when, in fact, it was only their former ignorance which makes it new to them. This propenſity in mankind to pry into the workings of nature, might be attended with much good, if kept under controul, and nothing admitted by us as *facts*, but ſuch things as reaſon aſſured us came within the graſp of our perceptions. But we too often allow imagination to lead the

way, and impose upon ourselves by building castles in the air. Mr Tull, one of our earliest writers on drill husbandry, was an instance of this. His system of drilling was excellent; his ideas of the component parts of a fertile soil correct; and his theory of the food of plants pretty well-founded: yet, with all this knowledge, he drew very false conclusions. He reasoned, that as a fertile soil will nourish, and bring to perfection a variety of crops equally well, the *food* of all these plants must be the same, nature having given a power to the seeds of every plant, when they come to germinate, to organize this food in a certain manner peculiar to their individual natures and formation, in the same manner as you may convert grass into beef or mutton, by giving it to cows or sheep, each of these animals being endowed with a power of converting the same food, so as to suit their own particular organs or formation; hence he concluded, that by keeping the lands free from weeds by drilling, the same kind of crop might be raised on the same field annually, as long as he had a mind. A rotation of crops he thought quite unnecessary; but, as nature acts contrary to this theory, it of course fell to the ground.

Since the days of Tull, writers on agriculture have been almost unanimous in recommending a rotation of crops; but differing very much about (what is perhaps of little consequence) the range or course of the rotation. In many of the periodical publications of late on this subject, various rotations have been held up as superior; and much time has been spent to *prove, by calculation*, the superiority of *particular rotations*. None, however, have yet appeared so convincingly of more advantage than others, as to become the general practice. The truth is, local circumstances of soil, climate and markets, must always influence the farmer in the course to be followed; and it is a fortunate thing, that, in such situations, nature will yield a little. She has bestowed a variety of plants for the use and comfort of man, out of which the farmer may choose various courses of rotations, with equally good effect; thus giving him a choice of cultivating such crops only, as he finds, from experience, pay him best in his situation. The danger is, of recurring too frequently to what is the *paying* crop with him,—it matters not, whether it is a white or a green one; it cannot be annually produced with equal success; no speculative prospect of greater gain should ever tempt the farmer to depart far from a rotation of a white and a green crop alternately.

Near large towns, land is occupied by men of all professions. Many of them, though men of learning, know very little about *country* business; and have no idea of any other practice being necessary in any situation, but their own. Such men frequently take

take it into their heads to write on the subject of husbandry; and, being men of *figures*, they will run you up the whole course of a rotation, stating the difference *clearly* in pounds, shillings and pence, between their practice and that of the country farmers. It must be owned, that the balance struck in favour of city farming, is often very great; and I have no *reason* to doubt, nor do I mean to contradict, the accuracy of such statements. But it is strange, that if farmers might make fortunes by the means which these writers point out *so clearly*, that they do not all immediately set about it. They appear to be possessed with the same degree of folly, which a certain brickmaker discovered in the farmers near London. This man had a small patch of ground near the city, from which he rapidly made a fortune, by burning it into bricks, and building houses with them. This worthy citizen took a jaunt into the country; but how was he shocked at the folly, ignorance and stupidity of the country people, who kept *large* fields in corn and grass, which, in his opinion, could pay but little. '*How easily*,' exclaimed the brickmaker, '*might all these people make fortunes, by burning their fields into bricks, and building houses with them!*' This brickmaker, it is presumed, would make but few proselytes. But when men of abilities, with only a partial knowledge of the art, take it into their heads to write upon agriculture, they sometimes set off their theories in such a plausible manner, as induces the unwary and unskilful to adopt their plans in situations not calculated for such modes of culture: the consequence is, disappointment and loss. With some of these theorists, green crops and drilling, are the *magic wand* for filling the coffers of the farmer. Fallowing is accounted, not only useless, but pernicious; as, by their accounts, better crops may be raised without it. * What a temptation is this for the novice to banish fallow from his practice altogether, though his fields may be in a state that loudly call for it. I am far from saying, that fallow should be universally adopted; but I am as far from saying it should be universally banished. Let the *natural causes* be attended to which make it necessary; and if nature demands that it should occasionally enter into the system of husbandry, let her demands be complied with. It is a real loss to fallow a friable soil that is free of weeds and vermin; but it is often a greater loss to continue cropping such lands, when the crops are annually diseased. The *effects* of such diseases are often not perceptible on the *bulk* of the crop. It may, upon a rich soil, be pushed on to the natural size of the plants; but if they have been

* Dutton's Observations upon Archer's Survey of the county of Dublin.

been sickly for any length of time, the seeds will not be well perfected, and will be deficient in quantity and quality.

Fallowing the ground, as well as a rotation of crops, are of very great antiquity; and wherever agriculture has been studied as an art, they must have been discovered to have been of importance. We are made acquainted with the practice of agriculture amongst the Romans, from some of their writers. They founded their whole prospects of abundance upon fallowing, and a rotation of crops.† The Egyptians, at a much earlier period than the Romans, practised agriculture as an art. Irrigation was well known to them, and carried on as a national concern, upon a large scale. They made the river Nile subservient to them; and, at a period, when the great body of mankind were wandering solitary hunters, or pitching their tents as herdsmen, that people had brought agriculture to a great degree of perfection, and raised corn in abundance.‡ Whether they followed a rotation of crops or not, cannot now be known; but I think it evident, that they fallowed their land, such as could not be irrigated at least, once in seven years; as *Moses, who was skilled in all the learning of the Egyptians*, imposed upon the *rude* tribes of Israel, whom he relieved from being the slaves of their more learned masters, a law, that their lands should lye fallow, or have a jubilee every seventh year. Let us not carelessly pass over these hints which we have from the ancients. Those men had the book of nature lying open before them as well as we have, and many of them were as capable of reading in it as we are. I am far from approving of the system laid down by Moses, as fallowing at a certain stated period may not be necessary. It should be left to the skilful practical farmer to judge when a field requires the operation of fallowing, as we leave it with the skilful practical physician to say when phlebotomy is necessary for a patient. But though the system of Moses may now be condemned, it certainly was the best that could be devised for such a people as he led out of the land of Egypt. He knew

† Virgil's Georgics.

‡ Irrigation, where it can be effected, is an excellent remedy for destroying all vermin which prey upon the roots of plants. Dr Anderson, in his Recreations, mentions a field much infested with grubs, being completely cleared of them, by an extraordinary wet season. The soil lay upon a retentive bottom; the continued rains raised the water upon this bottom to a greater height than usual; by which means the grubs were all drowned in their winter quarters. Quicklime, laid on fallow, has a powerful effect in destroying vermin and root weeds. But these things do not come within my present plan, which is, merely to notice the effects which fallowing and a rotation have upon the health of our crops.

knew them to be rude, and ignorant of all the arts. He was afraid that a people so totally ignorant of agriculture as they were, would, when they came into the possession of cultivated fields, *run them out* with overcropping; therefore, promulgated this law as the only means in his power to prevent such deterioration.

In many parts of the united kingdoms of Britain and Ireland, we have systems enforced similar to this law of the Jews, not indeed by the express law of the realm, but by proprietors of lands binding their tenants, by their leases, to fallow their field at certain stated periods, generally making the jubilee return oftener than Moses enjoined. When the bulk of farmers are ignorant of the arts, restrictions as to fallowing, and a rotation of crops throughout the lease, may be attended with benefit; and the farmer may, by acting under such restrictions, raise better crops, and reap more profit, than if left to the freedom of his own will. But as a knowledge of the art becomes general, such restrictions are often grievous fetters. At best, they only prevent the ignorant from going very far astray; but they often prevent the farmer from following the right path which fortunate circumstances may have pointed out to him. Though a rotation may preserve crops free from cutaneous disorders, yet various rotations may be followed with equal success; and he may be bound by his lease to follow one, which, from local circumstances, does not pay him so well as another would do. Fallow is a powerful remedy for destroying all root weeds and grubs; but he may be bound to use this expensive medicine oftener than nature requires, or has any occasion for. No intelligent farmer ought to be bound down by such fetters.

But plants are liable to disease, and fall into decay, from causes over which a rotation of crops, or fallow, have no influence. The soil, or climate, may afford too much, or too little moisture, or it may be impregnated with mineral substances hurtful to vegetation. The situation may be too much exposed to wind and storms, or it may be too much sheltered, to allow a free circulation of air for the plants to breath in, or have exercise from motion. To rectify such defects in soil or situation, is very foreign to the present subject. But I must observe, that plants, improperly nourished or sheltered, will be more hurt, should vermin attack them, and sooner fall a prey to their ravages, than plants differently situated.

But there is one disease to which our white crops are liable, which neither situation, fertility of soil, fallowing, nor a rotation of crops, seem to have much influence upon. By fallowing, and a rotation of crops, you may keep the fields free of the disease; but if you sow impure seed, you will infallibly have smut. This

disease

disease long baffled the skill of the agriculturist; and though chance discovered a cure, yet the cause of the disorder is still doubtful. Much has been said and written on the subject; some asserting it to be occasioned by minute insects or animalcules; others affirming, that no living creatures are to be found upon smutted plants, but such as, at same time, may be found upon sound ones in the same field. Sir Joseph Banks has described the cause of the disease to be minute parasitical plants, preying upon the wheat. It is highly probable that future observations may confirm this opinion. But whether the destroyer is a minute insect, or parasitical plant, the seeds by which it is propagated must be too small, ever to be observed by us, even with the assistance of the best glasses. But we know enough of the disease from its effects, to dread its attacks. We know that it is infectious, as smutted seed will increase the disorder in the next crop. There is reason to think, that all infectious diseases are able to propagate themselves, else how could they be infectious? But some diseases are more alive, and more easily wafted from one place to another, by the wind, than others. It appears, however, that this disease is not far spread by the influence of the air, as one ridge may be smutted by sowing impure seed, when the immediately adjoining ridge shall remain free from the disorder. In this respect it resembles some very inveterate diseases which attack animals. They are never carried by the air, but must be brought into contact by some other means before they can lay hold on a new subject. When the poison of such diseases is lodged on the skin, it may frequently be washed off with water alone; and even when lodged in, or under the skin, as in the bites or stings of reptiles, if caustic is applied to the wound before the poison has entered the system by mixing with the fluids, it may kill the disease in its birth. I believe surgeons will allow, that the virulent matter of the small-pox may be extracted or destroyed in this manner from the wound made by inoculation, although it may have remained for some time under the skin. Smut, in wheat, seems to be a disease of this nature. You may free the seed grain from the infection by washing it in salt water, and drying it with quicklime. The lime, in that state, acting as caustic, kills the seeds of the disease. The grain may have remained for months covered with the infection; but the disease cannot operate till the grain begins to show life. As soon as that takes place, or very soon after the plant has developed itself, does the poison lay hold on the seminal parts of it, and so vitiates its juices, as to render it unfit to perfect its seed, or propagate its kind. Any one may be convinced that the disease begins at a very early period of the plant's existence, by dissecting a diseased plant,

plant, as early as its formation can be clearly traced, when these parts will always be found defective.

But, luckily for agriculture, chance discovered a remedy for this deadly disease. Tull relates the circumstance which led to the discovery. A ship laden with wheat was stranded; the cargo was saved, but completely wet; it was offered for sale at an under price. Some farmers ventured to sow a little of it, a few days soon showed that the grain vegetated. As it was sold much below market price, the farmers soon bought it all up for seed; but it was so completely wet, and stuck so much together, that, in order to make it separate in sowing, they mixed it with quicklime as the likeliest thing to dry it. Smut was very prevalent in the country, but, to the surprise of every one, not one head of smut appeared where this seed was used. From this accidental discovery, pickling to cure the smut in wheat has been practised ever since, and found to answer the end. Stale urine was afterwards found to be a more powerful remedy than salt water, but it is attended with some danger; for, if the grain is not immediately sown, it runs the risk of being deprived of vegetive life, and rendered totally unfit for seed. I have only noticed smut in wheat; but it attacks oats and barley also. It is likely that pickling might also cure these crops of smut: the loss in them, as to quantity, is often as great as in wheat; but what remains is of equal value at market as if no smut had grown in the crop; whereas, wheat that is smutted always sells at an undervalue. If farmers, by pickling, could procure sound crops of oats and barley, it would amply repay them for the trouble.

Accidental practice, or circumstances, have often made discoveries in the arts, which otherwise would have remained longer secret; but when chance has made the discovery, it is of importance for us to trace out the true cause of the phenomenon. The cause of this disease is still a little doubtful, and may continue to be so, as the infection may be communicated to the plant in a manner as invisible to our senses as some infectious diseases are communicated to the glands of animals. We see the diseased seeds of the plant and the diseased gland of the animal, but the causes which produce these disorders, are by far too minute for our organs to discover.

Fallowing, and a rotation of crops, have been observed by many farmers to be beneficial, who never thought of inquiring into the cause of their usefulness. Had farmers continued unconcerned about these causes, their practice must often have been in error; but they could not have been much further astray, than when acting upon assumed imaginary causes, which probably exist no where in nature but in some wild imagination. Men find

find it more easy and pleasant to solve every natural appearance by the workings of fancy, than to bring the subject under the cognizance of their senses. By the help of imagination, a person may sit in his closet and account *to himself* in the most *satisfactory* manner, for the causes of the most curious and minute operations of nature. But, to investigate the matter, so as to be satisfied from the testimony of his own senses that the thing is really true, a person must attend to minute objects, in some cases, for years, before he can pronounce with certainty on the subject. Unluckily for agriculture, the natural causes which render fallowing necessary were accounted for without due examination. The *jubilee* was a year of *rest* unto the *weary soil*. Men were sensible, from their own feelings, that animals required rest after hard exercise; imagination suggested that the soil also *must* require rest after a course of cropping. Nothing can more clearly show how prevalent this opinion has been amongst farmers, than the common phrases of recruiting a *worn-out*, or *run-out soil*, by resting, or fallowing. The idea that lands are restored to fertility by *rest*, is a very common, but very erroneous one; but many farmers fallow their land upon this principle. Having the idea that *rest* is the chief thing which their *tired* soil requires, they pay little attention to have the weeds and vermin extirpated by the fallow. Acting upon such false theory, has brought fallowing into disrepute, with some; but experience has proved, and it may be proved by any one who chooses to try it, that it is not *rest* alone which the soil requires; for, if it is free of root weeds and vermin, you may, with a very little dung, raise a good drilled *green* crop upon this soil, so much exhausted and fatigued with carrying *white* ones; and it will be found to show equal, if not more vigour in bearing next white crop, than if it had been rested by an ill executed fallow. It is evident, that every practice founded upon such false theory must lead to error.

The idea that green crops have a fertilizing quality which they impart to the soil, is held by many persons. I cannot contradict it; but I must say, that of all the reasoning which I have heard or read upon the subject, none of it brings conviction to my mind that these plants are possessed of any such qualities. It is not impossible—it is even probable, that they are possessed of these qualities; but I have no evidence to convince my senses that these are *facts* in nature; and therefore must remain in doubt. Until this is ascertained, we may, by practising upon these ideas, be pursuing a system as completely wrong with regard to green crops, as those who fallow their lands under the notion of their requiring rest.

There is a deficiency at present, in the theory of agriculture, which

which every one must feel who wishes to study it scientifically. In the operative part we have made great progress; but for this we are much indebted to some of the other arts. By the mechanical powers, we can determine which form of a carriage is best for our purpose; and from mathematical principles, we can construct a plough that shall cut the furrow of any breadth and thickness required, and turn it so as to leave it inclined at any angle we choose. This part of the business is well understood by many, though far from being so generally known as it ought to be: but the reasons given by many operative farmers, why a certain mode of culture is preferred by them, are often very unsatisfactory; and, not unfrequently, whimsical causes are assigned that do not exist in nature.

Agriculture with us, as an art, is still in a state of infancy. It is, however, an art that may be carried on scientifically as well as others. In the infancy of every art, much error must be committed; this, of course, cannot be avoided in agriculture. But let us try to correct our errors, by taking lessons from those following other sciences. It is true, the results from experiments in many of the other arts can be sooner known, and the course of the experiment can be more easily attended to, and brought more under the immediate cognizance of our senses; whereas, in the growth and formation of plants, nature works by such imperceptible means as to elude our keenest observation. Many of her operations, it is probable, will never be understood by man; but let not this prevent us from endeavouring to learn as much as the present state of things will admit. Let no *speculative theory* mislead us; let us beware of admitting as *facts*, such things as cannot be proved to be so by the evidence of our senses; and we may soon hope to see agriculture arise to a much higher degree of perfection than it has ever yet attained. Let us beware of imputing virtues to any modes of culture which they do not possess. We should carefully, and without partiality, endeavour to acquire a knowledge of the *natural causes* which operate for or against the health of our crops. Were we possessed of this knowledge, remedies might present themselves to us for preserving them in health and vigour, of which at present we are totally ignorant, and can form no conception. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Considerations on the Selection of Wheat for Seed.

Sir,

From a long practice in the trade of a baker, I had opportunity of observing the very different effects of fermentation on the flour of

of the numerous parcels of wheat which I manufactured; and always found, that in proportion as the wheat was bad, the more easily it was fermented; that in the case of smutted wheat, it was necessary that the fermenting spunge should be set very cool, otherwise sour bread would be the consequence; and that the flour of first rate wheat required the spunge to be set considerably warmer; or, which amounts to the same thing, that a greater quantity of yeast should be added to it. The inference I drew from these observations was, that the degree of fermentation proper to be excited, depended entirely upon the quality of the wheat; or, in other words, upon the quantity of *gluten* which it contained. And in order to ascertain this as correctly as possible, I had recourse to the following experiment, which I found to answer the purpose, and which I ever afterwards continued to practise with every parcel of grain that I manufactured. I took a pound weight of the fine flour, made it into dough, tied it loosely in a linen cloth, and washed and rubbed it in two or three basons of water, or in a running stream, till the whole saccharine parts were dissolved, and nothing but the *gluten* remained, which, when dried, weighed from less than two, to three, four, and sometimes more than five ounces. Having thus ascertained the quality of the wheat by the quantity of *gluten* it contained, I regulated the fermenting process accordingly; and can safely say, that my expectations were never disappointed.

Some years ago, wishing to try the effect of wheat, when used as seed, according to the quantity of *gluten* it contained, I sowed part of a field with grain, which, from former experiments, I knew contained a large proportion of *gluten;* and the remainder with wheat purchased from a merchant, the seed of which had been brought from London in the preceding year. Though this grain did not appear to me to contain nearly so much *gluten* as the other, yet it had not the least appearance of smut. The event, however, turned out as I expected; the produce of the seed merchant's wheat being much affected by smut, whilst not a single ball was to be found among the rest. From this, I am inclined to infer, that, though particular seasons may have a tendency to the production of smut; yet, if attention is paid in selecting for seed that wheat, the fine flour whereof is found to contain four or five ounces of *gluten* (if more the better) to the pound weight, that smut would seldom occur. I am, Sir, yours, &c. AN OLD BAKER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Liberality of Landlords to their Tenants.

SIR,

You profess that your Magazine was set up and is conducted on *liberal* principles. *Liberal* they are with a vengeance in favour

of

of *tenants*. But you show so very little *liberality* to us *landlords*, that I am surprised none of them have taken notice of it; especially as you can boast of having Lord Somerville, Sir John Sinclair, Sir George Mackenzie, and Lord knows how many more great proprietors, among your correspondents. Being disappointed in my expectation of some abler champion stepping forward in their behalf, I can no longer refrain from attempting the task myself, however unqualified for writing any thing fit to meet the public eye.

According to the doctrine of your Magazine, tenants should have long leases of 19 or 21 years, with full liberty to sell or transfer them, whenever, and to whomsoever they please, without asking the consent of, or even consulting, their landlords; and they are to pocket the *whole* advanced rent, because they improved the land; while their landlords, to whom it belongs, must not touch a single shilling for allowing them that valuable privilege. Now, supposing that I pay 10,000*l.* for a farm, and let it for 400*l.* a year to a tenant, who, in the first three or four years of a 21 years lease, by laying out 1000*l.* makes it worth 600*l.* a year; is it reasonable, or rather, is it not unconscionable, that he should have the right of thrusting any body he chooses upon *my* property, and drawing 200*l.* a year for paying out only 1000*l.*, and that I should submit to the grievance of a subtenant, and draw nothing, who have paid 10,000*l.*? Again, farmers now-a-days must have houses like palaces, and spacious courts of offices (of which you have most *obligingly* given different plans, all of them sufficiently expensive) built at the sole charge of their landlords. These cannot, at a fair average, cost less than 2000*l.*; which sum, with simple interest, on a farm of 1000*l.* a year, will amount to more than four years' rent on a lease of 21 years. Nor is this all; for, as the soil belongs to landlords, they should pay for all substantial preservatives and improvements of it, such as, mounds or dikes to defend against waters; ring-fences to bound the farm; enclosures, whether of stone or ditch and hedge; drains of marshes and morasses, especially such as contain marl; even thrashing machines should be erected by them; and it is insinuated, that, for money thus laid out, they should exact no interest at all, or at least a very moderate interest, because of the great additional rent they receive, and the lasting benefit they derive from their outlay. All this is mighty *liberal* to landlords. Well, their purses being thus spared, tenants can go over their farms so much sooner, and have the greater command of capital to purchase a suitable stock of cattle, sheep, and horses; to procure manure; to clean, drain, stone, pulverize and dress their fields; and to raise heavy crops of grain

for the market. Every thing being provided for them by their *liberal* landlords, the moment they can convert the produce of their lands into cash, they are in circumstances to live like princes, to keep hunters, and even to set up a carriage, and to entertain their friends and *liberal* landlords, not merely with the produce of their farms, but with rare and costly dishes, excellent wines, and a dessert of fruits. In a few years, perhaps, they may purchase estates, become freeholders, and be preferred to other advantageous leases, over higher bidders, by political (and consequently *liberal*) landlords, on account of their votes. Is there nothing ridiculous in all this? Do you not seriously think, Mr Conductor, that we landlords would be fully as well with 4000*l.* in our pockets, though our tenants were not to buy land, and though we were to want the honour of your encomiums upon our *liberality?*

I am far from being done yet;—more mischief follows. One farmer sets out in the style I have described; his neighbours, unaccustomed to such fare, dine with him. When the visit is returned, nothing will satisfy their wives and daughters, but an entertainment in kind. Poultry are strangled; a lamb or a calf is killed, if early in the season, or even a four years old wether, if remarkably fat; fish and game are sent for from a distance, if none can be got near at hand; and the servant-maid is ordered to bring a few bottles of red and white wines in her empty basket, when returning from selling the butter at the next market town: the whole family is thrown into bustle and confusion, with setting the room and sideboard in order, scrubbing the dishes, knives and forks, and dressing, first the dinner, and next themselves. This is only the beginning of evils. Such an exertion, once or twice in their lives, might suffice a sober, decent couple, well advanced in years. But young master, and the young misses, look a little higher. He prevails with his parents to take a fourth, or perhaps a third part of a pipe of port; then to take half of another; and, finally, to order a whole one: so that, by the time he sits at the foot of the table, he can offer his guests wine of this or the other *vintage*. A rivalry thus commences, not to raise the best crops, but to keep the best table, and to give the best drink. And they who entertain much company, and have not the secret of making a great show at little expense, may soon squander what should portion their daughters, instead of leaving them dependent on the brother, who heirs the lease, or bequeathing them a scanty pittance, scarcely sufficient to feed and clothe them. These, too, are the fruits of the *liberal* terms on which leases are granted. While they enrich one class beyond all disproportion, they keep the *noses* of another class at the *grindstone*, by tempting them to an extravagance altogether out of their line.

For

For I would ask, and ask seriously, if this way of living can be necessary, or in the least degree instrumental, to promote good husbandry? Can farmers see better, when a field is well or ill ploughed, after drinking port, than a jug of ale or a glass of whisky punch? Do they know better how their fattening cattle come on, after rising from a sumptuous dinner, than from simple and wholesome broth and meat? Can they take a more narrow inspection of their cows and calves, and sheep and lambs, when lolling in a gig or chaise, or mounted on a prancing steed, than when traversing their pastures on foot? Will their high roofed, and finely ceiled and nicely furnished dining-rooms and drawing-rooms, their polite visitors, and their fashionable hours, make them better judges how a plough, a cart, or a harrow, should be constructed or drawn—how turnips and potatoes should be hoed—when corn should be cut and led, and how it should be stacked, dressed, and sold—or render them more diligent or expert at any branch of their professional labour, than they would have been by snatching a hasty frugal meal, in a snug humble parlour, with their families, welcoming any chance-comer to a share of it, and hastening to oversee their agricultural operations? If things be so with farmers, sure I am, they are not so with us landlords, whether peers or humble commoners. You would form a very wrong opinion of us, were you to judge of our talents, respectability, or even our opulence, by our houses, or equipages, or tables. Did I not detest every thing like personality, I could mention numerous *living* instances, to prove incontestably, that they who inhabit the most magnificent dwellings are not the ablest statesmen, the greatest orators, or the cleverest fellows; and that they who fare most sumptuously, and shine most conspicuously in the highest circles of fashion, are not the most attentive either to their own private affairs, or to those of the public. And unless it be shown, as incontestibly, that large and elegant houses, and well furnished tables, produce an opposite effect on tenants, and contribute towards the substantial and lasting melioration of our farms, I can see no reason why we landlords should be so liberal of our money in building the one, or give such beneficial leases as will enable them to indulge in the other. For my own part, I solemnly declare, that should I at any time have as much money to spare, rather than employ it on farm-houses and offices, I will lay it out upon a *chapel of ease* or a *tabernacle*, from which I shall be surer of an ample return in this religious age, when a spirit of true piety is so much upon the increase, and has created so great a demand for places of worship, that I have heard of a proposal to convert a theatre, lately erected in a provincial town, into a house of prayer; and no part of Britain is so very poor

and graceless, that a landlord cannot draw a better return for his money in this way, than in accommodating farmers with stately edifices. At the same time, I was not a little struck and pleased with the ingenious use which some of the more sensible and enlightened tenants made of their landlord's generosity. They confined their own residence to the lower flat: the upper flats were employed by one for thrashing and laying up his corn—by another, were filled with wool, cheese, or grain—by a third, were let to labourers who wrought piecework on the farm or neighbourhood—by a fourth, were hired out for summer quarters to invalids, who brought furniture with them, and came to the country for milk, whey, or change of air—and, by a fifth, were given for a school and sleeping-room to a teacher, on condition of his own children being taught *gratis*. All these are pleasing instances of that judicious and economical management, by which tenants thrive, and are enabled to give higher rents for their farms, without drawing upon their landlord's liberality.

Besides these, I cannot conceive a single other purpose which can be served, by giving farm-houses of more than *one* story. In my younger days, the whole onstead consisted of a low dwelling-house, containing a kitchen, and a *but* and a *ben*, *i. e.* two apartments, both for sleeping, and the one entering through the other, —a byre at the one gable, and a stable at the other, to hold precisely the number of cattle and horses kept on the farm, and no more; and a barn, sometimes detached, and sometimes making part of the same row. The dung was laid down immediately before the door of the dwelling-house, at an equal distance from stable and byre, and very convenient both for receiving the dirty water, &c. without occasioning much trouble to the family, and for sending a salutary effluvium into the house, to strengthen the nerves against hypochondriac complaints, and a variety of disorders to which modern farmers are subject; for I am credibly informed, that among other improvements, besides being nervous, some of them have had the gout, and other *gentle* diseases, which were utterly unknown among their healthy predecessors. This good old practice is not altogether abandoned in the western part of Scotland; and, to say the truth, is abundantly suited to the style of farming there. But, where farms are of a moderate size, and pay a rent of 300*l.* a year, or more, the occupiers should be somewhat better accommodated. I should not think it too much to allow them an eating-room 15 or 16 feet square, with a sleeping-closet behind for a friend; a family-room in the other end, with two beds for the husband and wife, and such of the younger children as need a mother's eye, with a pantry and milch-house behind, and a kitchen jutting out backward. One half of the garret

ret might be coomceiled, and divided into two apartments, for the grown up boys and girls; the other set apart for holding wool, cheese, corn, meal, and such things; and the maids might sleep above the kitchen. Not a foot of offices should on any account be built, except what is absolutely requisite for the cattle and horses upon the farm. By obstinately refusing to give a single spare stall, you furnish tenants with an excellent excuse for declining to receive company, particularly night-lodgers, and thereby save the fodder and oats which strangers' horses would consume. You also relieve them from all obligation to spend any of their precious time in visiting and staying nights from home, and enable them to devote their whole time and undivided attention to their proper employment. The more that they stay at home, and the sharper that they look after their affairs, the more will they gain; and the more frugally they live, the more will they save; and, by their gainings and savings, the more will they be able to offer for new leases. In this case, landlords really pocket, as they ought, no small share of what, in other cases, tenants eat and drink, and spend needlessly.

I had almoſt neglected to mention another conveniency which modern farmers are in the habit of requiring, the very thought of which makes my blood boil ſo hot, as almoſt to throw me into a fever. They muſt, forſooth, have a water cloſet; and, in ſome inſtances, ſeparate ones for the maſters and miſſes, whoſe feelings are now become ſo faſtidiouſly delicate, as to refuſe to honour nature's bills according to the ancient faſhion. Do you think, Sir, that water cloſets are neceſſary in the houſe of a farmer, or that they are connected with good huſbandry? If you think ſo, I muſt tell you, Sir, that the buſineſs of farming was carried on more in character, when the *gudeman* and his family were to be ſeen in a morning making a regular addition to the *midden*, than now when they retire into water cloſets, as if aſhamed of what they were about. What the miſchief,—if you will have water cloſets, can't you erect them at your own coſt, and not trouble proprietors with an unneceſſary expenſe, for no better reaſon, than that your pretended delicate feelings may be gratified in thus forſaking the good old cuſtoms of your forefathers?

Think not, Sir, that I would impoſe upon tenants any hardſhip or privation, to which I would not ſubmit myſelf, and ſubject all other claſſes, eſpecially the clergy. I grant, that in remote and inacceſſible parts of Scotland, where there are no inns, and few paſſengers to require and compenſate for the erection of inns, it is highly expedient that gentlemen, farmers, and clergymen, ſhould have a ſpare bed and a ſpare ſtall to accommodate a traveller or a relation upon occaſions. Hoſpitality to man and beaſt becomes

then a duty. But in every cultivated and populous country, hoſpitality is downright nonſenſe. Where there is an inn within two or three miles of his houſe, the occupier muſt be a ſtranger to economy and common ſenſe, who does not ſend his viſitors and their horſes to it at night;—and if there be none, it is the joint intereſt of all concerned to build one. Indeed gentlemen, in fixing a ſituation for a new houſe, ſhould regard contiguity to an inn above all other conſiderations. They can cure dampneſs by draining, and obtain ſhelter by planting, much cheaper, and more profitably, than they can erect an inn and ſuitable ſtables: and, as for a grand or beautiful proſpect, their pampered gueſts will be much the better of walking a mile or two to find one. In ſhort, the benefits, both to individuals and to ſociety, would be incalculable, was only one half of the time which is at preſent fooliſhly ſpent in viſiting and dreſſing and goſſiping, and what the faſhionable world call ſocial amuſements, appropriated by every man to his own proper concerns: and this remark, which holds true of all ranks, is peculiarly applicable to farmers, to whom the ſmalleſt relaxation of diligence is ruin.

Perhaps it may be alleged, that the more company farmers entertain in their own houſes, they will ſpend the leſs in public ones. But what occaſion is there for either? Cannot they ſtay ſoberly at home; ſell their victual, or cattle, or ſheep, to purchaſers coming to look at and offer for them? or, if they muſt go to market, cannot they deſpatch their buſineſs there in the forenoon, and be home to a late dinner? By ſuch a conduct, they avoid all pocket expenſes, and can afford to ſell their commodities ſo much the cheaper, which cannot fail to bring them cuſtomers. The butcher, the baker, the miller, the cadger, will all reſort to them, certain of buying below market price. Many advantages attend this mode of doing buſineſs. Their goods are all delivered on the farm; paid for when delivered; and carried off at the coſt and riſk of the buyers. Here is another ſource of gain, from which farmers may be more *liberal* in their offers of rent for a renewal of their leaſes.

You ſee, Mr Conductor, that I am armed at all points againſt your arguments and objections. And I deſire you and your correſpondents to obſerve, that I have all along proceeded upon the ſuppoſition of farmers being too much of *gentlemen* to put their own hands to any work. Yet, where would be the mighty harm of their holding a plough, or driving a cart, or ſetting up ſtooks, or building ſtacks, upon an occaſion? Their hands, indeed, might be harder, their dreſs coarſer, and it might not be eaſy to diſtinguiſh them from their own hired labourers. But would not their horſes be better looked after, and more tenderly uſed? and would

not

not every kind of work be performed more expeditiouſly, and to better purpoſe? Nor would I reckon it any great degradation, though they ſhould in general eat with their ſervants. Their preſence would check groſs and fooliſh talking; their grave and ſolemn manner of ſaying grace and returning thanks, would preſerve and encourage a pious ſpirit; and their example might teach that decency of behaviour and that courteſy of manners, in which our lower ranks are ſo notoriouſly deficient. If, on the other hand, any of them ſhould be ſo very newfangled as to drop the old-faſhioned practice of acknowledging God at their meals, they might be reminded of that becoming duty in the ſociety of their ſervants. While moral purpoſes would thus be anſwered, it is difficult to conceive in what reſpects the intereſts of agriculture would ſuffer. Land would not be worſe ploughed, or more careleſsly cleaned; horſes would not fare worſe, or be harder wrought; the crop would not be more negligently reaped, or ſtacked, or thraſhed, or ſold; and rents would not be leſs, or worſe paid. Tenants, indeed, would not be ſo *liberally* treated; but they would not have the ſame deſire or reliſh for the *liberality* of their landlords.

I am, &c. &c.

A Laird.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Diſeaſe in Dogs called the Diſtemper.

Sir,

Next in eſtimation to the farmer's wife and horſe, follows his dog. I truſt, therefore, that you will not conſider the following communication foreign to the purpoſes of your far famed Magazine, or unworthy the attention of its editor.

There is perhaps no diſeaſe which has ſo frequently baffled the ſkill of the moſt experienced practitioners in animal medicine, as that called the *diſtemper* in dogs. The beſt account of its ſymptoms is, I believe, given by Blane; and, as far as my information extends, his medicines have proved more ſucceſsful than thoſe of any other perſon. Very, very often, however, do they fail of producing a cure; and this valuable animal dies a lingering and miſerable death. A pointer bitch, upon which I ſet a high value, was laſt autumn ſeized with the diſtemper. Immediate recourſe was had to Blane's medicines, but without effect. She continued to diſcharge acrid matter from the noſtrils, to ſtagger in her walk, like a perſon in liquor; her fleſh waſted, and at laſt ſhe became paralytic, dragging her hind legs; a ſymptom which Mr Blane conſiders, when happening in the latter part of the diſeaſe, as fa-

tal. Under theſe circumſtances, and when I was upon the point of ordering an end to be put to her miſeries, I ſaw her fall down among ſome graſs; and, upon going to the ſpot, I obſerved that ſhe was attempting, though in vain, to eat it. I took the hint which Nature gave, and ordered a handful of graſs to be cut in ſhreds of about half an inch long, and when mixed with butter, as a vehicle, to be put down the animal's throat. This doze was repeated three times every twenty-four hours. In a very few days, amendment was to be marked by an attentive eye; in a week, the progreſs was obvious to every byſtander; and, in fourteen days, the principal ſymptoms were in a great meaſure removed. The graſs was adminiſtered twice a day, for another week, and afterwards gradually diſcontinued. The bitch, by the end of the fifth week, was in excellent health; and ſhe has been lately in the way of becoming a mother. No viſible operation was produced by the graſs, except a more frequent diſcharge of viſcid phlegm from the throat than I had before obſerved. The bowels were not rendered lax; on the contrary, I was under the neceſſity of occaſionally giving ſome gentle medicine.

This caſe is ſolitary; but, as a cure pointed out by Nature, it ſurely merits attention; and I confeſs myſelf ſolicitous that it ſhould meet the public eye, that an opportunity may be afforded of making trials of a remedy, which is ſo entirely within every one's reach. It may be neceſſary, upon the diſeaſe being firſt obſerved, to give a table or deſert ſpoonful of ſalt, according to the ſize, which has the effect of making the dog ſick; and to follow it up by a few grains of calomel, as recommended by Mr Blane. Should the reſult of any trials be ſent to you, I hope you will have the goodneſs to give them a place in your Magazine.

I cannot deny myſelf the pleaſure which this communication affords me, of telling the Editor that I am a conſtant and attentive reader of the Farmer's Magazine, which, in my opinion, has far outſtripped every other publication, in forwarding the beſt intereſts of agriculture.

A KINCARDINESHIRE FREEHOLDER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts concerning the mode of Ploughing and Harrowing Land in wet weather.

SIR,

As the following mode of ploughing and harrowing land in wet weather, is not generally known, and as it has been found in practice very uſeful by the farmers of wet ſoils in this neighbourhood, I think it may be of advantage to communicate to you the following

ing account of it for publication. For ploughing in the way to be mentioned, the common plough drawn by the point of the beam, without any chain, anſwers very well, provided the muzzle is horizontal, and the iron to which it is attached by a nail at the point of the beam, is vertical or perpendicular. This iron, in ſome provincial dialects, gets the name of the *Leys* of the plough. The object in view is to throw the point of draught at the muzzle, ſo much to the right or furrow ſide of the plough, that a furrow ſlice can be eaſily taken with the two horſes walking in the furrow before each other, and not touching any part of the ploughed land at all. This is completely effected by removing the muzzle, the breadth betwixt its two claws, to the right or furrow ſide of the point of the beam; which is done as follows. A ſmall piece of wood muſt be procured, of ſuch a ſize as to fit in cloſely between the two claws of the muzzle, and prevent them from twiſting; and a hole muſt be then made through the wood oppoſite to the nail-holes in the muzzle, of ſuch a ſize as to receive the nail commonly uſed. This being done, the muzzle, with the piece of wood between its claws, is put on the furrow ſide of the point of the beam; and a long nail, of at leaſt the common thickneſs, being got, it is entered at the uſual hole on the land ſide of the iron at the point of the beam; then through the correſponding hole on the oppoſite or furrow ſide; and then through the two claws of the muzzle with the wood between them, the length of the nail being calculated, ſo as to make the point of it project about an inch beyond the furrow ſide of the muzzle. The muzzle is now in the proper poſition; but it is obvious that it wants ſome ſupport on the outer ſide, at the point of the nail, to keep it firm in that poſition. This is done by an iron chain of two or three feet long, the outer link of which is hooked over the projecting point of the nail, and the other end of it fixed to the beam, a few inches before the coulter, by a ſtaple, or other contrivance; after which, the plough may be yoked. By this very cheap and ſimple apparatus, it will be found that as good a ſlice may be cut, with the two horſes going in the furrow, as can be done in the common way, and that without leaving the impreſſion of a horſe's foot on the whole field, except the ſide ridges. It is almoſt unneceſſary to obſerve, that traces muſt be got for the fore horſe, and a boy to drive. It will alſo occur to every perſon acquainted with ploughing, that in taking out the laſt ſlice of the ridge, on clearing the furrow, the plough will be more immediately behind the horſes, than in turning the others. This requires an alteration; but the horizontal niches of the muzzle will be found ſufficient to anſwer the purpoſe.

In ſowing wheat on wet land, a mode is followed of harrowing

rowing with a pole, which is alſo perfectly effectual in preſerving the ground from injury by poaching. For this purpoſe, the ridges muſt not exceed twelve feet in breadth; which is by many thought ſufficient for wet land at any rate, ſo as to be covered by three harrows. A ſtrong wooden pole is then procured, equal in length to the breadth of the ridge, to which three harrows are attached, one in the middle, and one near each extremity. Two horſes are then yoked, one to each end of the pole, and driven along the two furrows, by which the intervening ridge is harrowed. In this operation, it is found proper, in order to keep the ſides of the common harrows parallel to each other, to keep one of the horſes about three feet before the other, which has the deſired effect; and, at the end of a ridge, in place of turning ſhort to the one next it, to turn round to each alternate ridge, which gives room for a better ſweep, and keeps the harrows from entangling.

By theſe means, a good deal of wheat was ſown in this neighbourhood in December laſt, where it would have been quite impracticable in any other way: the ground was completely preſerved from poaching, and the braird at preſent looks very promiſing, and ſufficiently thick. No perſon would truſt to this method ſo far as to loſe any favourable opportunity of ſowing when the ground is dry; but experience has ſhown, that, in this wet climate, ſeaſons often occur when wet land cannot be ſown with wheat in the uſual way, though completely prepared; and in ſuch a ſituation, the method detailed is of great uſe. The mode of ploughing mentioned may alſo be adopted in every caſe, where it is deſireable to carry forward ploughing on land too wet for the ordinary proceſs; and it is obſerved, that if done early in the ſeaſon, the occurrence of froſt afterwards does away in a great meaſure the bad conſequences which generally follow wet ploughing. I am, &c.

R. M.

Dunbarton, 15th March, 1808.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Pleaſures of Rural Life.

Vivere naturæ ſi convenienter oportet,
Ponendæque domo quærenda eſt area primùm,
Novistine locum potiorem rure beato?
Eſt ubi plus tepeant hiemes? Ubi gratior aura
Leniat et rabiem Canis, et momenta Leonis,
Cum ſemel accepit Solem furibundus acutum?
Eſt ubi depellat ſomnos minus invida cura?
Deteriùs Libycis olet aut nitet herba lapillis?
Purior in vicis aqua tendit rumpere plumbum,

Quàm,

Quàm, quæ per pronum trepidat cum murmure rivum?
Nempe inter varias nutritur ſilva columnas:
Laudaturque domus, longos quæ proſpicit agros.
Naturam expelles furca; tamen usque recurret,
Et mala perrumpet furtim faſtidia victrix.

Hor. Ep. ad Fusc. I. 10.

Sir,

In every nation and in every ſtage of ſociety, agriculture has drawn mankind ſo irreſiſtibly to its purſuit, that from this circumſtance alone, it may be eſteemed the real natural occupation of the human race. Many other employments have, no doubt, their pleaſures as well as their pains, which are beſt eſtimated by thoſe who are deſtined to paſs their lives in proſecuting them; but agriculture, though followed profeſſionally by a part, is the ſofteſt ſolace, and the moſt enviable aim, of all the reſt of mankind, without diſtinction of rank, of riches, or of profeſſion. The mechanic ſighs for the moment when he may be enabled to reſume his early habits in the country; the labours of the counting-houſe and of the bar, are equally ſtimulated by the deſire of haſtening the period of rural retreat; and even the glory of their occupation cannot ſmother this natural propenſity in the breaſts of thoſe whoſe lot it is to encounter the dangers of the field of battle, or of the ocean. Diſſimilar from the reſt of their ſpecies in all their habits, except this maſter-paſſion, they look forward to an honourable eſtabliſhment in the country as their beſt reward, and as the point to which all their exertions are directed. It may perhaps be juſtly obſerved, that that which is not intrinſically excellent, can only in one, or in certain points of view, appear to advantage; but that no ſituation or train of circumſtances can hurt the luſtre, or impair the eligibility of that which is entirely excellent in its nature. Thus is the retreat of the country equally ſalutary and ſolacing to the proſperous and to the unfortunate. The heat and the fever of the moſt brilliant career of good fortune, which even fatigues and intoxicates, creates the moſt ardent deſire for the enjoyment of the eaſe, the refinement of mind, and the cool poſſeſſion of reaſon which the country alone affords; and the ſtings of misfortune which are ſo painfully felt, and which become intolerable amidſt the glare and noiſe of the buſy world, gradually loſe their poiſon in the ſhade of rural retirement, where, indeed, an upright man will ever be able to mould his happineſs to his wiſh.

'Tis there celeſtial wiſdom calms the mind,
And makes the happiness it does not find.'

Health, which is so necessary for the happiness of mankind, and which is so profusely squandered amidst intemperate revels,

vels, and from the very nature of a town life, is alone to be lured back by following the more congenial avocations of the country; the mind recovers its pristine tone of energy, and the body, from being emaciated and sickly, becomes healthy and invigorated. Amidst the constant frivolous, mercenary, or malicious pursuits of men cooped up in cities, the mind insensibly loses its proper elevation, and becomes truly base and vicious; but that man has little estimable in his nature, whose faculties are not purified and elevated amidst rural scenes. What degree of insensibility must he not possess, who is not, upon the first return of the soft and cheerful influence of spring, raised with enthusiastic gratitude to his Maker,—who can, unmoved, behold all nature starting into life and fertility, fresh in youth and in beauty,—the whole creation renovated, and ascending to perfection, as if it had never suffered, or never was to suffer decay,—its luxuriance and prime of vigour, its golden maturity, and its soothing and sympathetic decline? The man who is not moved by these, has surely no music in his soul, and must be fit for all the enormities which Shakespeare supposes to exist in such obdurate temperaments as are insensible to melody of sound.

Another advantage of these pleasures of the country, is, that they are lasting to the imagination; and, after the lapse of many years, are capable of affording perhaps a warmer satisfaction in memory, than in reality they did at first. This is not the case with those of cities, which invariably leave little to interest, and generally produce disgust and shame upon the retrospect. In short, the first seems to be the constant source of manly and innocent pleasure, and the last of disappointment and lasting misery. But the pleasures of the rural life are not only felt in every situation, either in reality or in imagination, by those who have received from the cradle those impressions which the natives of the country first imbibe; but such is the natural bias of the human race, that those who have drawn their first breath, and passed their earliest years amidst the smoke of cities, evince an evident and unconquerable propensity towards an emancipation from a slavery to which they seem reluctantly to submit; as those animals which are brought up in habits dissimilar to their nature in a domestic state, want only the convenient opportunity to show how much they have been constrained, and how much more they delight, even in want and liberty, than in dependence and luxury. This partiality to the country in persons whose habits have even been confined to the streets of large cities, has afforded many scenes full of ridicule, both upon the stage and within the range of anecdote. Ignorance, when assuming the privileges of knowledge, must ever be contemptible, and often laughable; but it is certainly

certainly unjust to condemn, even to ridicule, the man who only follows awkwardly the most congenial avocations of his nature, and from an intimate acquaintance with which, he has been debarred by no fault of his own. It may be remarked, that love, which forms the most important epochs in the life of almost every man, is certainly not a native of the town, but of the country. The shepherd, in Virgil, found it a native of the rocks. This passion, in all its delicacy and charms, requires the peace and the sympathy of rural scenery to nourish it. Amidst the sensual riot and the delirium of the busy haunts of men, it cannot exist. Every thing, in the first, tends to refine, to beautify, and to rivet this delightful passion. While, on the contrary, it is impossible, in its genuine state, to have the smallest foundation in the latter, where every thing conspires to blunt the best feelings of the mind, and to render it ridiculous.

It is true, that, with many dispositions, the country affords not the charms which it does to the generality of mankind; it presents to these a disgusting tedium, and a vacancy which they do not feel amidst the more turbulent scenes of society: But it may be truly remarked, that these persons have not to blame the wearisomeness of the country for their feelings, but the depravity of their own habits, which, being accustomed to the most violent provocatives, are insensible to those placid joys which neither stimulate nor fatigue by exciting to the utmost. It was the well known remark of a celebrated and intriguing French lady, when in the country, 'that, for her part, she never could enjoy *ces amusements honnêtes*;' and those of the same way of thinking, had certainly better look for enjoyments to their taste, where they can most easily meet with them, than run to disappointment and chagrin in the pursuit of rural felicity. Many, by having formed romantic and childish notions of country morals and happiness, are, upon the first discovery of the reality not being equal to the chimerical ideas they had formed, disgusted for ever at what they had once so fondly cherished: But, surely, such persons have likewise themselves to blame for their weakness and want of knowledge of human nature, which admits not of any degree approaching perfection, either in virtue or felicity. If, therefore, they have found knavery and strife to be the produce of rural as well as urban life, they ought at least to investigate in what proportion they abound in each; and if the comparison is fairly made, they will find little room for complaint against the country. Since we cannot attain perfection, we ought to give the palm to the nearest approach to it; and certainly, of the two, the preference will not be found upon the side of the inhabitants of cities.

I have several times remarked, that habits of rural life have prevailed to a very considerable degree in towns of a certain magnitude, not exceeding eight or ten thousand inhabitants. In the vicinity of these, I have observed that the demand for land to accommodate those of such habits has been very great; and that this has occasioned a very high rent to be paid for lands at a convenient distance; while, on the other hand, I have had occasion to remark, that the great cities do not possess a population which pays much attention to agriculture. The natural manners of the country, in the first case, predominate over the acquired customs and propensities of the cities; while, in the last, the intensity of the train of thinking and acting peculiar to cities, entirely absorbs into its vortex every part of the population; so that regular, large farms, often come nearer to the suburbs of them, than to the vicinity of smaller towns. From my own situation, I have been led into a pretty minute observation of the habits of people possessing small pieces of ground near a town of considerable magnitude in my close neighbourhood; and it is astonishing, to what a height of rent and of labour these poor people will go, merely (though they are not sensible of the cause), that they may have their natural inclination indulged, of passing part of their time in rural employment. These persons readily pay as high as six, and even seven guineas, for an acre of land, in order to put it under potatoes, if the distance is not great. Now, including their manure, seed, and the expense of horses, (leaving their personal labour entirely out of view), it is absolutely impossible that their crop can anywise reimburse them. This I have often told them, and brought the calculation fairly against them. They had little to urge against what I advanced; but they persisted in asserting that they liked to have the produce of their own labour, better than to spend their money in the market. A very inconsiderable difference in distance makes a very great difference in the value of lands, which derive their demand from the taste of persons of the description I have mentioned. When the walk is to be a little extended, three or four pounds is reckoned a great rent; a little further, the land must be given gratis; further still, it must be ploughed by the proprietor; and, lastly, the dung must be carried by the proprietor to remote places, the land ploughed, and the crop carried home—the land being given free. This plainly demonstrates to my mind, that these persons pay for the liberty of having scope for the relaxation of rural labour, as much as others pay for diversions of different sorts; and certainly, artizans, and persons of sedentary occupations, derive both health and happiness from the hours which they devote to the enjoyment of exercise and calmness in the fields, that perhaps are well worth

worth the price which they pay for them. The value, or rather the rent paid for land, has struck me as being inexplicable to reason; and unless the manners of the people are taken into the scale, I am certain that no arguments or elucidations whatever, can explain this subject, with all the facts which may be brought forward, connected with it.

I once made it my study to ascertain the average rent of lands near the great towns on the road from Edinburgh to London—from London to Bath—and in the county of Kent. About Durham, I found it to be about five pounds per acre; at Ferrybridge only three pounds; at Stamford, still lower; at Bugden, thirty or forty shillings. In the counties bordering the London and Bath roads, ten years ago, it was about twenty-five shillings. At Eltham, in Kent, only nine miles from London, I found a tenant in long possession at sixteen shillings; and he thought that the rise he offered up to twenty shillings, was a great rent. Close to Margate, the lands were at twenty shillings, till within these very few years, when they have been let at forty. About Canterbury, Sandwich, and Ashford, nearly the same; around the two last, indeed, rather lower. All these Kentish lands were of the best soil in the county, and laboured to the best advantage; and I had particular occasion to be well acquainted with the circumstances I state regarding them, as they belonged to a gentleman of whom I made the inquiry. This inequality of rent is truly wonderful, if we suppose, as is the case, that the soil is excellent in all the cases stated; and, I apprehend, can only be explained by the supposition, that in these counties, the other avocations of the people make them perfectly unwilling to engage in rural labour, unless their profits are so large as to allow them a great latitude of expensive living. The poor's rates and tithes cannot account for such a lowness of rent, where it might be expected to be very high. In my own neighbourhood, I am not at all surprised, that, considering the avidity with which our townspeople take lands for their potatoes, the occupiers of fields make the business profitable, even at the high rents they pay;—because they have no constant farm establishment to keep up;—they have other employments, from which they derive profit;—they have their lands put into heart, even at the high rent they have to pay the landlord, the first year;—the second, they are sure, without manure, of ten or a dozen bolls of wheat or barley per acre; and, for three years thereafter, of a grass crop, which will average ten or twelve guineas, without putting them to the smallest cost or trouble;—the breaking up the grass land insures a good crop of oats or wheat, probably worth twelve guineas. So that, when the land requires new energy, they have only to let it out, as at first,

first, to the cultivators of potatoes, without trouble or expense, and often with profit to themselves. When this is compared with the privations, and the vast labour and shifts which farmers, in the districts far from population and arbitrary demand, are exposed to, the great difference in the value of the respective lands will not appear strange. I should, however, be sorry if any thing I have said should be reckoned an apology for the demand of high rents for land: such demands are so much recommended by self-interest, and often by the urgency of a proprietor's expenses, that it would be quite superfluous, and indeed ungracious, to write in favour of them. If we suppose the proper rent to be one third part of the produce of the acre, which I believe to be the ratio now received, it is certain that it is the highest acknowledged rate of apportioning the master's share, which we hear of among modern or ancient nations; for the proportion of one fifth, and even one tenth, will often be met with as the part due from the cultivators for the use of the land, both in ancient and modern times. Nothing, indeed, tends more to the varying the state of the prices of every thing useful to mankind, than the rises and fluctuations in the rent and produce of land. These may be reckoned to be on one side, and every other article, both in respect to manufactures and bodily and mental labour, on the other. Should a maximum be placed upon either, it would soon lose its due value, if the other was not incumbered with something similar. But as the price of land and its produce, may be said to pour into the scale in one great stream, while the other can only be gradually and imperceptibly filled from unseen and small rivulets, the result must be, that the rise of land will even be more active and decisive in adding to the prices of the necessaries of life, than the latter can immediately create an apology for the exorbitant demand of high and uncommon rents.

Being, Sir, a real lover of the country, and of all the pleasures and labours of a country life,—having lived considerably and reluctantly in cities,—I have presumed to send these observations, in case you may deem them worthy of a corner of your Magazine; and I shall conclude with honest Horace's fervent wish towards the country, which has often been mine,

O rus, quando ego te aspiciam? quandoque licebit
Nunc veterum libris, nunc somno et inertibus horis
Ducere sollicitæ jucunda oblivia vitæ?

I am, Sir,
Your constant reader,
SEVERUS.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

An Inquiry into the Causes of the late Rise in the Value of Land.

SIR,

THE late rise in the value of land has excited considerable speculation in the world; but I have not seen any attempt to account for so very extraordinary a circumstance. The subject, confessedly, is of the highest importance, and deserves to be investigated. I do not pretend, in what I am about to offer to your notice, to have exhausted so extensive a field; but I flatter myself that none of your readers will close the perusal of this inquiry, without being sensible of having learnt something.

The causes of the rise are numerous; and to treat each of them to its full extent, would require more room in your Magazine, than can with propriety be spared. I write, therefore, more in the way of provoking discussion, than of pretending to illustrate these causes; some of them being of a doubtful, and others of an abstruse nature. It may be found also, that the different causes are not arranged in so regular or philosophical an order as could have been wished; but it will be no difficult matter for the reader to place them properly in his own mind.

1*st* Cause—'*The Quantity of Land in Great Britain is fixed, 'and, from the nature of the thing, incapable of increase, while 'the Wealth or Money of the Country, on the other hand, has 'been augmenting in a very considerable ratio.*' Great Britain contains exactly the same number of square acres now that it did 5000 years ago. The wealth of the country, however, that is to say, the number of pounds Sterling, whether in the more solid form of gold, or in the apparently perishable shape of paper, has been infinitely increased in point of quantity within these five years. Supposing, for the figures are of no earthly consequence, that in Britain there were, in the first year of our way of computing time, ten millions of superficial acres, and that the money, the thing to be given for it, by the purchaser to the seller, was exactly 10 millions of pounds. This statement is merely for the purpose of showing the proportion which the land is supposed to bear to the money. Upon this supposition, the quantity of land and money being identically the same, one acre for every pound, they stand in relation to one another as one is to one, or, in other words, that the two are equal. The land and money, therefore, may be said to possess an equal value, or that an acre of the one is worth just a pound Sterling of the other. We all know very well, that the exchangeable value of one article with another, depends upon the relative proportion between the two in respect to quantity, limited, however, by the *quantum* of demand upon the

part of intending purchasers. This is the only circumstance that possibly can affect, in the most remote degree, the principle I have just been stating. As the whole of the one goes for the whole of the other, it cannot be otherwise. It is not less true than that six and half a dozen are the selfsame number differently expressed. In the 1808, we find the number of square acres to be exactly the same as they were 5000 years ago, that is, ten millions; but the money has increased in quantity from ten, to one hundred millions. In these good old times, our ancestors gave what is now called a twenty shilling note for an acre of land; and we, their children, now pay ten times the sum for the same quantity.

It is for the very plain and simple reason I have just now stated, that a purchase of land, in an improving country, must unavoidably turn out a profitable speculation, upon the supposition of its making a return to the buyer of 5 *per cent.* from the outset. Upon the selfsame principle, too, money invested upon heritable security must ultimately be a losing business; and, at the termination of a certain number of years, the monied man will have lost just as much as the landed proprietor has gained. It must be remarked, however, that the gain of the latter is not of the abstract or positive kind, but only of the relative or negative species. In relation to another landholder, he is, in this point of view, no gainer; for an acre of his land is worth just the same as a like quantity belonging to another of the same value. A and B, therefore, *qua* landholders, are equally rich in the year one, as in the year 1808; for the quantity of land being precisely the same at both periods, if an acre of the one comes to be exchanged for the like superficies of the other, the one, *cæteris paribus*, will go just for the other. Quantity, not quality, is at present in view. There is, therefore, no increase in the real value of the thing itself,—no abstract positive augmentation of value; for, when compared with itself, it is identically the same at both periods. When land, however, comes to be given away for money, or put in comparison with that commodity, we find that it has now become ten times more valuable than it was 5000 years ago. In its exchangeable or relative capacity, then, it has increased in a tenfold degree. Individual wealth, economists know, is merely comparative or relative, when a nation, or any collection of individuals, is under consideration. For example, if every individual was worth 1000*l.*, each would, no doubt, be possessed of wealth to that amount; but, in a comparison of the riches of the whole body, it would be found that the wealth of A and that of B was the same, or, in other words, that no one is richer than another. Were we to suppose national wealth to be represented wholly by money, and no part of it in the

the form of land, in that case none of the individuals in the community would be gainers or losers by the increase or augmentation that has taken place in the quantity of money. But the wealth of a country is represented, among other things, by land as well as by money; those persons, therefore, who invest their property in land, will, at a particular period, be comparatively richer than those who retain it in the shape of money, or who have lent it out upon personal or heritable security. The one began to improve, the moment it was laid out upon the purchase of land, and the other to fall off, the instant it was lent out to the borrower. In a comparative point of view, therefore, of the two, land and money, the former is the more valuable of the two, or, in other words, that the proprietor of the one, A, is certain of being richer in the above sense than the holder of the other, B, at a determinate period. This is because land, from remaining stationary as to quantity, comes to be of more value than money, from its augmenting as to quantity.

2*d* Cause—'*A greater quantity of Agricultural Capital.*' It is universally admitted, now, that a farmer gets out of land exactly in proportion as he puts into it. The amount again of what he consigns into the bosom of the earth, is in proportion to the extent of his capital. *Ex nihilo nihil fit.* If a farmer undertakes the cultivation of 500 acres of land, with a capital of 500l., he can raise a certain number of bolls, or feed a limited number of cattle only. The profit that the agriculturist derives from the land which he cultivates, is in proportion precisely to its produce, whether that be in grain or cattle. The rent, again, which he comes under an engagement to pay to the landlord, must be limited, in its amount, to the profit that he draws from the farm. I shall suppose that the profit which he makes, and the rent which he pays to the proprietor, the same sum, 100l. each. Under this mode of management then, the lands in question, are worth no more than 3000l. Sterling, being the amount of the rent multiplied by 30 years purchase. From a want of capital, he is unable to drain the land, to enclose it, to manure it, and to execute a thousand other improvements of a like nature, which his better sense has taught him would quadruple the produce of his farm, and with it the profit to himself, and the rent to his landlord. Instead of raising, for example, crops of wheat and beans alternately, he is, from a want of capital, under the necessity, perhaps, of being satisfied with a crop of oats, afterwards one of hay, and to pasture the land for several years, until nature has renovated it to such a degree, as to render it capable of producing oats with little or no application of manure. Under this pitiful management, the capability of the land is unknown, and its pro-

ductive powers repreſſed by the want of capital, judiciouſly applied to its improvement. Suppoſing that this ſaid farm of 500 acres ſhould produce to the farmer 500l. of profit, and to the landlord the like ſum in rent, (and this caſe is by no means improbable,) by a proper application of capital, in manuring, draining, &c.; then, upon the ſame data as the other, it would bring 15,000l. inſtead of 3000l. when brought to the hammer. It is upon this principle, in ſome meaſure, that we find an incoming tenant realize money from a farm, which yielded but a miſerable pittance to the one who left it. The latter drew from the land merely what his ſmall capital enabled him to put into it, and the other all that the land was capable of producing, under a liberal and enlightened mode of management. It will be admitted, I preſume, that an infinitely greater capital is now inveſted in farming, than in former times; and, therefore, upon the foregoing reaſoning, which is incontrovertible, the late unexampled riſe in the value of land, is partly to be attributed to the above circumſtance.

3*d* Cauſe—'*An improved Cultivation of the Soil.*' There has been, of late years, a wonderful improvement in the cultivation of land, and we have uniformly ſeen a correſponding increaſe in the value of the raw material, go hand in hand with it. If too little manure be applied, or if, from ignorance, it is not properly mixed with the ſoil; in either of theſe caſes, a crop ſo abundant will not be raiſed, as when a proper quantity has been adminiſtered. A great deal has of late years been done in the article of manuring the ſoil, and uniformly with the effect of producing greater crops to the farmer, and of courſe a higher rent to the landlord. Farmers now attend infinitely more to the draining of land, which not only improves it by the removal of ſuperabundant moiſture, but permits the manure to operate in full force. They are alſo ſatisfied of the incalculable importance of encloſures, which admit of a regular rotation of crops, in the fulleſt and completeſt manner; by which the produce of the farm is greatly increaſed, and the ſame return made from it in a much more economical way. But, without entering into particulars, we have only to compare the agriculture of East Lothian with that of Argyleſhire, to be ſenſible of the effects of an enlightened ſtyle of farming upon the value of land. No doubt, the climate and ſoil of the former is, in many reſpects, more adapted to cultivation than that of the latter; but ſtill the vaſtly heavier produce of the one is to be attributed, in a very great degree, to the ſuperior mode of management of the ſoil. Indeed, it is a waſte of time to prove, that good farming will produce more grain *cæteris paribus* than bad. It is one of thoſe ſelf-evi-

dent

dent propositions which no demonstration can make clearer than it is at first sight.

4th Cause—'*An Abridgement of Human and Animal Labour employed in the Culture of the Soil.*' The produce of land is generally divided into three portions; 1*st*, Expense of farming; 2*d*, Rent to the landlord; and, 3*d*, Profit to the farmer. It is not my business at present to inquire into the accuracy of this division of the total produce, and, in particular, if the allowance for the first article be too high or too low. One thing is certain, and that is enough for my purpose, that expenses are really incurred in the cultivation of the soil. Those expenses are necessarily a deduction from the others; therefore, if there were none at all, or if they were less, both the landlord's rent and the farmer's profit would be greater. If in a particular farm, for example, the annual expenses were 200*l.*, and the rent and profit as much, it would, of course, follow, that if there was a saving upon the first of 100*l.* a year, the two last would be greater by, we shall suppose, 50*l.* a piece. The land, therefore, when brought to sale would, in addition to its former value of 6000*l.*, the rent multiplied by thirty years purchase, bring the further sum of 1500*l.*, the saving of 50*l.* multiplied by the same number of years purchase. By the introduction of the thrashing-mill human labour has been considerably abridged, and by a more economical use of horses in agriculture farming expense has been considerably lessened, and, of course, the other two augmented in a similar proportion. Were it possible to economize human and animal labour, as much in agriculture as it has been done in manufactures, land would rise prodigiously in value; for the expenses attending its cultivation are great, and yearly upon the increase. In this way a little has been done, and there can be no doubt that much will hereafter be performed by ingenious and enterprizing people, in an age superior to all that has gone before it in industry and talent. There is, perhaps, no improvement better calculated to abridge human and animal labour than roads and canals. This must be sufficiently evident to any person who will take the trouble of recollecting, when land-carriage, for the want of roads, was conducted wholly upon the backs of horses, and compare it with the prodigious heavy loads now drawn by the same animals upon a turnpike road. It is partly for this reason that land in the neighbourhood of a large town lets higher than ground of equal value twenty miles off; because the additional land-carriage necessary in the one is wholly saved in the other instance.

5th Cause—'*The introduction of Turnip Husbandry, and other new and improved modes of Cultivation of the Land.*' A superior

perior mode of cultivating wheat and other crops, already known, as raising the value of land by increasing its produce, has been already treated of. The introduction of the turnip husbandry and other green crops, though a different cause, has precisely the same effect, and in the very identical way, by increasing the produce of the soil. Before the use of green crops, the common rotation of farms, if it can be dignified with such an appellation, was to rob the land by taking white crops in succession so long as the returns would compensate the expense of seed and labour. When thus about to expire under the hands of the doctor, it was suffered, from necessity, to remain for a number of years in a miserable unproductive state, until it recovered itself in the best way it could. By this mode of farming, it is very evident that land under such vile treatment was capable of producing but little corn or grass, in comparison of what it might do under a more enlightened management. Until the introduction of green crops, it was impossible to practise that just rotation of tillage, which, by combining in their proper proportions, the white and green kinds of culture, seems the best adapted of any to produce the greatest quantity of vegetable and animal food. The quantity of manure on hand, without which land cannot be cultivated to any advantage either to landlord or tenant, could not be augmented under such policy, and, therefore, the further improvement of the soil was totally at a stand. Besides, even the ground for which the farmer happened to have manure, could not, in many instances, be kept clean and in perfect condition, without the assistance of summer and winter fallows. This sleep of nature yet returns too often in many parts of the country, to the great injury of the public, and of individuals themselves. The green husbandry, however, possesses the property both of cleaning the soil, and augmenting its produce, and by that means banishing, in a great measure, the necessity of fallows. I can easily conceive, that by the complete extension of green crops over the whole surface of the country, a quantity of manure may be produced sufficient to raise white and green crops every where, and render it unnecessary for the farmer to depasture his ground during a series of years for the purpose of renovation. When this very simple combination has taken place, the quantity of vegetable and animal food produced by the land has reached its *acmé*. With this augmentation in the produce, it has been shown, the value of land also rises. To what extent this additional value may be attributed to the introduction of the green husbandry, it is impossible for me to speak; but that much is owing to it, there cannot be the smallest dubiety.

biety. This is sufficient for my present purpose; and it is needless to be proving more than what is necessary for the occasion.

6*th* Cause—'*A more liberal connexion between landlord and tenant than heretofore.*' In proportion as proprietors of land become enlightened upon the subject of agriculture, the connexion between the landlord and tenant becomes more and more liberal. I should humbly apprehend, that all which a landlord has to take care of, in the letting of his land, is to procure the highest rent from the best man; and to take the tenant bound, in case of removal, to leave the farm in the same condition it would have been, had he remained in possession of the ground, so as that the new incomer may be able to carry on the same, or an improved mode of cultivation, without any extra expense. For my part, I cannot conceive how the *real* and *actual* interests of these two classes of people can ever differ, though their *supposed* ones often may. It would require too much time to demonstrate the propriety of allowing tenants to subset,—the absurdity of tying them down to a particular rotation or mode of cropping, except towards the end of the tack,—and a thousand other circumstances of a like nature; all of which affect, more or less, the melioration of the soil, and of course the interests both of landlord and tenant. I take it for granted, that every thing that is advantageous to the tenant, and not injurious to the landlord, ought to be freely permitted to the former. I apprehend, that beyond this point the tenant cannot be a gainer, without, at the same time, a corresponding benefit attaching itself to the proprietor. The truth is, that the interests of these two classes of people are identified in each other; the one, to be sure, temporary, and the other perpetual. With the simple difference of permanency, they are in all other respects alike.

7*th* Cause—'*Freedom from tithes, and other burdens affecting agricultural industry.*' What I have just been speaking of, is in regard to the connexion between landlord and tenant, or, in other words, between one individual and another. There subsists, however, another species of relationship, between the cultivator of the ground, and the political government under which he lives; that is to say, the State. The one is a personal, and the other a political bond of connexion. I flatter myself that I have shown, that the more liberal the connexion between the landlord and tenant may be, or, in other words, the more that the industry of the latter is left untouched, the higher will land rise in value. Now, it is very evident, that, if the value of land depends upon the industry of the tenant being free and unincumbered, it is of no consequence in which way, or by what power, it is affected, whether by the landlord or by the State. We all

know, that in the southern part of this island, tithes are a heavy load upon the industry of the farmer, having in fact retarded the amelioration of the soil in many places. I shall not here enter upon the question of tithes as a system, because such a discussion is not relevant to the point at issue. Suffice it to say, that if tithes be, and it will not be denied that they are, prejudicial to the industry of the occupier of land, they of course will act as a compressing power upon land, which would otherwise rise in value. In this northern part of the island, tithes are not known, at least in the very obnoxious sense of which we have been talking. They are a burden, no doubt, upon the land itself, but none in the world upon the cultivator of it. In Scotland, they can be no bar to improvement, because the interest held by the Church in the land, has no other effect than that of producing two sets of landed proprietors instead of one, the clergy and the laity. To those at all acquainted with the past and present state of agriculture in Scotland and England, the very superior style of management of the former, within these few years, must be peculiarly striking. We all know very well that the natural and physical advantages are all upon the side of England; and of course we must look for the cause of this manifest superiority into the moral and political condition of the occupiers of land in both places. In freedom from tythes, therefore, we can easily account for part at least of the more finished agriculture of the north over that of the south. If land be better cultivated, the produce will be greater, and with that the value of land will always be upon the increase.

8*th* Cause—'*Land being now cultivated in large instead of small farms as formerly.*' It has long been a matter of dispute, whether large or small farms be the most beneficial to the community. Without entering into so wide a field of controversy, I believe it will be admitted on all hands, that, in two respects at least, they materially differ. A large arable farm, say of 1000 acres, admits of being managed with a smaller number of hands, and in every respect in a more economical way, than the same quantity of ground in twenty different farms of 50 acres each. This, I presume, will not be disputed by the warmest admirer of the small-farm system. Indeed, it is admitted by them; for the loudest complaint against large farms is, that they have a tendency to depopulate the country, or, in other words, that fewer people are necessary upon large than upon small farms. This being admitted, it follows as a necessary consequence, that, even supposing the produce of this large farm not to be greater than the other twenty, still, on account of the more economical management of the former over the latter, there will remain a much greater

quantity

quantity of disposeable grain for the market; or, in other words, that there will be, after paying the expenses of production, a larger fund to be divided between the proprietor and tenant. As rent is the barometer of the value of land, and as that is greater in the instance of a large than in that of a small farm, it is perfectly evident, that though the gross produce may not be greater, the rent of the land, and of course its value or price, must be higher.

It will hardly be denied, that a farmer upon a great scale is possessed of more capital and knowledge than one upon a farm of small extent. Independently of the common-sense argument, which teaches us, that a man of talents and capital will not be idiot enough to waste his time in the cultivation of 50 acres of ground, we have merely to look at the fact, to be sensible of the truth of the remark. Accordingly, we everywhere find large farms in the hands of people of capital and skill. A man with limited funds cannot undertake a large concern with any prospect of success; for, independent of the want of capital, his head would grow giddy at the contemplation of the magnitude of the business. It is an axiom in all manufacturing establishments, that the profits of the individual are for ever in proportion to the amount of his capital, and the *ratio* of his skill. Indeed, upon what other principle can the circumstance of profit hinge? for capital and skill are the only two agents employed in the formation of it. This holds in agriculture as well as in all other manufactures. If, therefore, a large farmer makes more money than a smaller, by raising a greater quantity of produce from the same breadth of land, the proprietor will in like manner reap a benefit in the augmented value of the soil. The value of the land, as has been shown, is always in proportion to the produce, and that, again, to the *quantum* of capital and skill possessed by the farmer. No doubt, while the tenant is in possession, he will reap the benefit wholly and entirely; but the landlord will step into his shoes at the expiry of the lease. Large farms, then, in consequence of being managed with more capital and skill, not only raise a greater quantity of grain, but have, by a more economical mode of management, a larger disposeable produce for market. In the former of these, the quantity of grain in the country is really and truly augmented; and in the latter, less of the raw material is consumed in the production of the same quantity. In both ways, it is perfectly clear, that the large-farm system has the necessary effect of raising the value or price of land.

9*th* Cause—'*A duty upon the importation of grain from foreign countries.*' This certainly is one of the most obvious methods of raising the price of grain of home growth. Should it happen

that

that wheat might be imported into this country from the Baltic, at a cheaper rate than it could be afforded upon the spot, then, in order to prevent the value of land from falling, or, in other words, to keep it at a higher elevation, the simple contrivance is, to lay a duty of a certain amount upon its importation from abroad. If, for example, wheat can be raised in this country at 30s. per boll, and imported for sale at the same price, then the two will come into competition, and home agriculture be more or less discouraged. To secure, however, the home market, the Legislature have merely to impose upon foreign grain a duty that will raise it from 30s. to 40s.; and not a particle of that species of grain will be imported until the home price rises still higher. The farmers, now, without competitors in the home market, elevate the price of the commodity from the lesser to the greater number; and, by that means, the rent, and, of course, the value or price of land, is raised in a like proportion. By the late Corn act, the rate at which grain may be imported was raised; and, to that extent, the land growing it was also augmented in point of money value. There being no increase, however, in the quantity of grain raised, there is no addition of wealth, or gain to the country, but merely to the landholders.

10*th* Cause—'*The invention and application of the steam engine,* '*and other mechanical improvements in manufactures, by which* '*human and animal labour has been abridged.*' The use of the steam engine, and other sorts of machinery, of which it has been the parent, has had the effect of prodigiously abridging human labour in every species of manufacture. In other words, the same quantity of work can now be executed with fewer hands than in former times. As long as the labour of an individual is totally manual, or wholly the result of his own legs and arms, it is very plain, that his daily wages can be in the precise *ratio* only of the exertions made by these members. As they constitute the only operating cause, the effect produced by them, viz. the wages, can arise only from that source. The alone way, therefore, in which the effect, wages, can be increased, while the cause, manual labour, remains of the same capability, is by an actual augmentation of the former for the same quantity of work. This, however, is exceedingly limited; for, with the increase of wages, the price of the article is augmented, and its consumption, of course, materially diminished. Machinery, on the other hand, possesses two very singular qualities; for it has the effect, at the selfsame moment, of lowering the price of the manufactured article, and of raising the wages of the workmen. These consequences are apparently, and at first sight, contradictory; but, when considered more nearly, they are necessarily the result of each

each other. It is very plain, that if a workman, with the assistance of machinery, can perform twenty times more work than with his own hands, the goods so manufactured will be twenty times cheaper in the one case than in the other,—under deduction, however, of the expense attending this aid. In the manufacture of muslins, for example, there enters both manual and mechanical labour; and, had it not been for the invention of the steam-engine, and various other machines, that trade, now of so enormous a magnitude, would have been, in comparison, of very trifling consequence; nor would the article itself been nearly so cheap as it is at present. It is evident, therefore, that the goods, when delivered over to the master-manufacturer by the weaver, contains his own manual labour, and the mechanical labour also of all the machinery employed in bringing it to a marketable state. One would suppose, however, that still the weaver or spinner would be paid for his manual labour just in the same way as before the introduction of machinery; because all that he gives is the labour of his hands. But this is by no means the fact; for, along with a remuneration for his manual labour, he gets part of the profit earned by the machine of which he has had the management. It is a small proportion, to be sure, in comparison of the gain of the master-manufacturer, but still of sufficient importance to increase the comforts of his condition in life. While a man works merely with his hands, he gets the price of their labour only, because nothing else is employed; but when conducting a machine, which requires some little intellectual exertion, he receives a further reward for this higher species of labour. He is no longer a mere labourer; he is now a being of a superior kind, the master of a machine; and, on account of the intimate union which subsists between the two, he derives some part of its profits. It is very evident, therefore, that machinery has the effect of raising the wages of the lower class of the community to a higher pitch than they would otherwise have risen by means of manual labour alone. If, again, the condition of all ranks of people, in respect to income, be better, they can afford to pay a higher price for the wheat and other articles that they may have occasion to consume, besides using a great deal more of them than they have been accustomed to do. If a man earns only sixpence a day, he can afford to pay just a certain sum, and no more, for the articles of consumption, and the farmer need not ask a higher price; but, if he happens to earn a shilling, then he will be able to pay just double the price. As machinery, therefore, has had the effect of raising the wages of the manufacturer, it has had the effect also of raising the price of farm-produce, and, of course, the value of land.

It

It has been remarked, that a duty upon the grain imported from abroad, raises the price of the article in the home market. Now, if the use of machinery raises, or rather adds to the wages of the manufacturing classes, a source is opened for adding every now and then something to the duty already upon the grain. In proportion as the machinery advances in improvement, the wages of the workmen will also increase; and, of course, a further tax upon grain imported will be the less felt, from their greater ability to pay. The landed interest, therefore, may be assured, that with the further improvement of machinery wages will rise; with that the ability of consumers to pay a higher price for commodities; and the duty upon the importation of foreign corn be augmented. The value of land, it would seem, will continue to rise *ad infinitum*, at least as long as these causes continue to operate.

11*th* Cause—'*Taxes increase the nominal, or money price of land.*' Taxation, from sad experience, we know very well, increases the nominal, or money price, of all articles of consumption. If rum, before the imposition of a tax of five shillings per gallon, cost only four, then, the same quantity, after that event takes place, will cost at least nine shillings. Upon the same principle, if land was worth nominally twenty pounds per acre at one period, it will, after the imposition of the land-tax, rise in value to the amount of its former price and the above tax. But further, after the imposition of this tax upon rum, and all the different articles that are consumed by the holders or occupiers of land, they will find, that if the value of that commodity stood still, it would enable them to purchase fewer of them than formerly. It becomes necessary, therefore, and uniformly happens, that the price of the produce of land rises more or less after the imposition of a new tax by the Legislature, and, of course, the value of the land; for, if it did not, the landed interest would soon become beggars. To be sure, this rise in the price of grain is not so great as it would otherwise have been, on account of the improved cultivation of the soil. It is contended by many people, that all taxes, of whatever description, fall ultimately upon the land; and if so, then the nominal value of that commodity will be more enhanced by these operations than I am arguing for at present. All that I contend for is, that, owing to the land-tax acting directly, and the taxes upon rum and other articles acting indirectly upon land, a rise in its nominal value is produced. The precise amount of this effect it will be difficult to determine, but there can be no doubt of its silent operation; and, of course, along with the progressive accumulation of taxes, an augmentation in the value of land will follow.

12*th* Cause—'*A rise in the price of the produce of land.*' I am aware of entering upon a very difficult and abstruse subject, when I come to treat of this and the following cause; but I shall do my best. A full discussion I do not mean at present, for that would be superfluous to the point at issue, even if it were in my power to do justice to it.

As a rise in the price of the produce of land is often confounded with what is called a depreciation in the value of money, I shall, in treating of the first of these, speak only in so far as it is independent of the other. When the two are combined in nearly the same proportions, which often happens to be the case, I shall not touch upon the subject at all; because, in doing so, much confusion of ideas will necessarily arise upon a matter of very considerable abstruseness and difficulty even in its simplest form. It is impossible, altogether and completely to separate the two ideas, since they are so intimately blended and interwoven with each other. If there really and truly exists a depreciation in the value of money, it must, of course, enter into the price of the produce of land. There are, however, some articles into which it enters more, and others into which it enters less. To illustrate, therefore, this rise upon the produce of land, I shall speak of those articles only, the money price of which depends less upon the low value of that article than some other causes. In doing this, I shall confine myself to one commodity, for the sake of simplicity and precision; and the reasoning that I may have occasion to employ upon this particular one, may easily be applied to other articles of consumption.

Butter, and it is a considerable article of consumption, has of late years risen greatly in price, and, so far as its influence extends, has augmented the value of grass land in Scotland. This rise is not owing altogether to a supposed depreciation in the value of money, nor indeed in any very great degree; because wheat and several other articles, are not much dearer now than they were half a century ago. That it has risen in consequence of the fall of the other, there can be no doubt; because, as money, in the abstract, is supposed to have fallen in value, so must every commodity, of course, rise in price for which it is given in exchange. The only other possible cause for this rise in the price of butter, is to be found in the increased demand for it from all quarters, by reason of an increased wealth upon the part of the consumers. The demand being greater than the supply, the old level was destroyed; the former relation between the money price and the article, of course fell to the ground. With this rise in the price of butter, there is evidently a rise in the value of all land

land devoted to the production of milk, and to the feeding of dairy cows. But further, we know, that a direct rise upon the price of one article of food, has the effect of indirectly raising all the others, though not to a like extent. The increased price of butter, therefore, raises directly the value of grass land; and by communicating part of its rise to other kinds of land produce, raises that of grain, and of course all land under tillage.

13*th* Cause—'*A depreciation in the value of money.*' We hear a great deal of a depreciation in the value of money; but I have not yet met with such an explanation of its nature as appears satisfactory to me. In this dilemma, therefore, I must give my own understanding of the matter. The value of money, in respect to grain, depends upon the relative quantity of these two commodities. If there be, in one year, a million of bolls of wheat for sale, and the same number of pounds Sterling to purchase that quantity, then the boll will just be worth twenty shillings. If, again, the quantity of the grain in the market be the same in another year, and the money that is set apart for the purchase of it has been doubled by some means or other; then the boll will cost forty shillings, instead of its former price, twenty. In this case, the value of money will fall one half, being the difference between twenty, the price of the boll of wheat in the former, and forty shillings, its price in the latter year. This is what I understand to be the simple meaning of the depreciation of money value. In order perfectly to establish the fact, we ought to be acquainted with different particulars, which, I venture to assert, are imperfectly understood. In the *first* place, we ought to know the quantity of grain in the market at each period; 2*d*, the amount of the circulating medium at these periods. Upon finding that, at these two periods of time, the quantity of grain was the same in amount, and the number of pounds Sterling greater in the second than in the first, we may safely conclude, that there really and truly has been a fall in the value of money. Yet still money may increase in quantity; but, if grain augments also in a similar ratio, there is, upon the foregoing principle, no depreciation in its value; the relative quantities are still the same. However, we all know, that grain is now dearer than it was formerly; and the probability is, that part of this rise, though by no means the whole, is to be ascribed to a fall in the value of money. I do not pretend to deny the fall altogether; but sure I am, it is not so great as generally supposed to be. The taxes which are paid to Government by individuals, by falling upon the land, must necessarily have the effect of raising its value. The abridgment

of

of human and animal labour that has taken place in manufactures and agriculture, by raising the wages of the people, enables them to pay a higher price for the articles of consumption, and by that means tends to elevate the price of land, and of course that of grain. These, and many other causes which might be mentioned, must be permitted to have some influence upon an effect which ought not to be attributed wholly to a depreciation in the value of money. To the extent, however, of this fall, the nominal price of land will no doubt rise.

There are still several other causes that might be mentioned, as tending to produce the rise that we have seen in the value of land; but they may with propriety be included, without any confusion of ideas, in one or other of the foregoing. I intended to have closed this inquiry with some general remarks; but I find I have trespassed so much already upon your patience, that I must defer the execution of my original intention to a more favourable opportunity. I am, yours, &c.

A Constant Reader.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Property-Tax, &c.

Sir,

I have observed, in some of the late newspapers, an account of the meetings and resolutions of both heritors and farmers, in different places of Scotland, relative to the *data* fixed upon by the Legislature for ascertaining the income of tenants, with a view of levying the Property-tax; and, in the March number of the Farmer's Magazine, we have, at full length, the opinions and resolutions of the Kincardineshire farmers upon that subject, who, like several of your correspondents, complain bitterly of the tax, being, as they term it, 'erroneous and unequal, partial and oppressive, also unjust, imposing extreme hardships on the occupiers of land,' &c. &c. Now, as it appears clearly to me, that, of all the different classes of the community, the farmers are those who have least cause of complaint on that score, I shall, without further preamble, proceed to lay before you the grounds upon which I have founded that opinion. It may be admitted, that farmers, as affected by the Property-tax, are divided into two classes,—those who had entered upon, or agreed for their farms, prior to the Property-tax act, and those who have taken their farms since that period, meaning since the passing of that law in 1803, imposing a per centage upon profits from stock or trade. Now, when we consider that, from the great competition which

which almost always appears amongst farmers whenever a farm comes to the market, and from which circumstance we may infer, that land always lets at its full value, affording, at best, for some years at the commencement of the lease, barely sufficient to pay the rent and necessary expense, and very often that the same is only expected after a lapse of several years, with a constant outlay of money, during that period, in improving the farm; yet, nevertheless, as in this country every man has a right to make his own bargain, we may naturally conclude that land lets only at its fair value, the value of every article being exactly what it will bring in a public market.

I am perfectly aware, that, at first sight, it may appear extremely hard for a farmer to be told, who has taken his land under the above circumstances, that, whatever rent he may have agreed to pay his landlord, the one half of that sum is his real income, and upon which he must pay the Property-tax accordingly; and if matters, in every respect, had been the same as when he entered upon, or agreed for his lease, so it would; but if, before perhaps one farmer in fifty had paid a shilling of Property-tax, the Legislature of the country thought proper to pass an act of Parliament, which had for its avowed purpose the raising the price of grain, and if such act of Parliament was competent for the object in view, that surely made a most material alteration in the situation of the farmer. And as for yourself, Mr Conductor, I think I recollect, in your very judicious observations upon the Corn laws, you gave it as your opinion, that all that seemed necessary, on the part of Government, was, simply, proper regulations, prohibiting the importation of foreign grain at or under certain rates, so that the British farmer might not be undersold in his own market; and I think you have also stated, more than once, that, in an average of years, this country or island is not able to grow grain sufficient for the support of its present population. Now, if this latter observation be correct, which, by the by, seems to be generally admitted as a fact, and if the alteration made in 1804, in our Corn laws, went the length of adding one fourth, or thereabouts, to the prices at which foreign corn could be imported into this country, would not this have a direct tendency to add one fourth more value to all the disposeable part of farm produce? And that such really has been the case, appears pretty evident from the astonishing rise that has taken place upon the value of land within the last three years. From what has been said, I think it will appear perfectly clear, that farmers who have held their leases previous to 1803, have not the most distant cause of complaint; for, if they did not foresee the Property-tax bill, they had as little right

to

to expect the important alteration that has taken place in the Corn laws.

As for those farmers who have taken land since 1803, I cannot for my life see upon what ground they rest their objections to the present mode of raising the Property-tax; for surely it must appear evident to every one, whose eyes are not completely blinded by the most selfish partiality, that (as has been repeatedly noticed in your Magazine) the Property-tax, as levied upon farmers, must *ultimately* fall as a land-tax; which implies that farmers, when offering for land, will invariably keep in view, that the Property-tax exigible from them will be in exact proportion to the sum offered; and, as they know to a certainty that the tax will be rigorously exacted, without favour or deduction, will shape their offers accordingly: of course, such offers will, with every prudent man, be just so much less to the landlord as the amount of the tax to be paid to Government. Now, that men, under such circumstances, should come forward and exclaim against the mode of raising the tax, as unfair, oppressive, &c. &c. appears to me most extraordinary. That many individuals find it a hard matter to meet both their landlord and tax-gatherer, I make no doubt. But, who have these gentlemen to blame? Was it not their own deed that brought them into their present situation? for, certainly, no one will impute to Government the bringing of men from the four winds of heaven—from the mash-tub and the sugar-hogshead—from driving the needle, the shuttle, and the quill, and setting them down in the pure air of the country as Scotch farmers. And certain I am, that had the competition for farms not been greatly increased by people of the above and similar descriptions, there would not have been at this day so much just cause of complaint among such a respectable class of men as the Scotch farmers, of the high rent of land.

That the Property-tax has not yet had the dismal effects upon agriculture supposed by some men, is what I think pretty evident, from the most extraordinary rise that has taken place upon the value of land within the last four years, as before mentioned; and surely a rapidly increasing rent-roll must, even to an Ayrshire or Caithness county squire, indicate a flourishing agriculture. Why, then, all that seeming anxiety for the good of the tenantry, so pompously displayed in the columns of our newspapers? Let gentlemen only perform what a clear judgment and liberal sentiments would readily point out to them, as the best means of ameliorating the condition of their tenantry, and increasing their own revenues: let them grant leases of

sufficient duration, and upon such liberal terms, that, while they secure, in the most ample manner, the interest of the landlord, they may also be sufficient to enable the tenant to reap an ample recompense for what improvements and ameliorations he may have made upon the farm; and, in case of death or other accident, which prevents him from personally enjoying the fruit of his industry, instead of fettering the tenant, by absurd clauses, from disposing of his right in the lease in what manner he may judge most advantageous for himself or family, allow him, like a merchant who disposes of his goods in a warehouse, (to whom, by the by, these patriotic souls, our country gentlemen, would have no objections to have him assimilated in the case of the Property-tax); allow the tenant, I say, like the merchant, to dispose of his property in the way he thinks most advantageous for his own interest; for, surely, when a farmer's stock is fairly invested in a farm, it is the same to him as that of a merchant when brought within the walls of a warehouse. How ridiculous would it appear, was the proprietor of that warehouse to pretend to dictate to him in what manner he should dispose of his goods so concentrated? The days of feudalism are past; the relation of landlord and tenant are very different since these days; but still the clause in the lease, which had its origin at that early period, secluding assignees and subtenants, is retained with all the obduracy of feudal ignorance. Let the tenant be accommodated with house and offices suitable to the farm; let him have the farm enclosed and drained, as circumstances require, with every permanent improvement that may seem necessary;—then, by only applying his capital exclusively to the cultivation and manuring of the farm, will he be enabled to send more grain to market; of course to pay a higher rent, live better himself, and in the most effectual manner further the wealth and prosperity of the country at large.

I cannot help noticing, in this place, a practice in general use among landlords of this country, when they have a farm to let, of advertising to take in offers for the same between and a certain period,—offers to be concealed if desired,—a practice, in my opinion, often extremely prejudicial to the farmer. Indeed, the practice carries upon the face of it the most evident marks of having sprung from a mind completely embued with the most selfish greediness and low cunning, natural only to the very refuse of mankind. I am far from thinking that every gentleman who advertises his land to be let by the above method, would stoop to the paltry measure adopted by some men, for the purpose of screwing a few pounds from the pockets of an anxious candidate;

candidate; but those who are at all acquainted with the present mode of letting land are sensible, (and many of your readers, to their cost, know the truth of what I mention), that when once a written offer is given in,—what by some landlords themselves, or their factors, their grieves, their cooks and their valets, the most unwarrantable use is often made of the same,—what with showing the offer, with the name concealed, to one person,—what by some of the vermin employed about the great man's house pretending to another person, that, by accident, he saw an offer of so much from such a one, or overheard the coversation at table, standing behind his master's chair, that such a sum was offered;—nay, what is worse than all, by managing matters in a way similar to what is stated above, instances are not wanting, where an individual has been brought to make a considerable advance upon own his offer, at the time he was the highest offerer himself. It would certainly show much more candour in landed gentlemen, were they (throwing aside the opportunity of taking advantage of such mean subterfuges) to come frankly forward, and say to the man they could wish to accept of as a tenant,—such a sum is the value I put upon my farm, if you choose to take it; if not, I expose it to public roup;—a method of letting land, by the by, recent observation may point out to the landlords, as well calculated to bring the full value of the premises exposed.

Little accustomed to lay my sentiments before the public, I am perfectly aware of the inaccuracy of my writing; but if the sentiments expressed are thought worthy of a place, they are perfectly at your service; and as some of the topics upon which this paper touches, engross at present a share of the public attention, an early insertion, on that account, would be desirable. I am, Sir, yours, &c.

SCRUTATOR.

REMARKS BY THE CONDUCTOR.

OUR sentiments concerning the Property-tax, as it affects the farming interest of Scotland, being already well known, it is unnecessary to repeat them at this time. Before remarking upon the foregoing paper, we frankly admit, that the author has presented an ingenious defence of that unpopular tax, (unpopular, because it falls heavier upon the tenantry than upon other classes); and we acknowledge, that his arguments would be weighty, were they grounded upon a solid foundation. A few observations will explain our meaning.

In the *first* place, as the original Property-tax act was passed

five years ago, it is pretty plain, that three fourths of the farms entered to before 1803 have already been valued; consequently, that the great body of the tenantry of Scotland are rated at rackrent, when the Property-tax upon their farms comes to be ascertained. In considering the subject, the points at issue are these,—Whether the gains or profits of farming can be reckoned equal to one half of rackrent; and whether the tax upon farms, entered to since 1803, is paid by the tenant or landlord.

With regard to the *first* point, the wildest calculator in rural or political economy, has not hitherto ventured to estimate the profits of farming at more than one third of rackrent; and, perhaps, were these profits restricted to one fourth of that rent, a great error would not be committed. But, though this point is of much importance to those who entered to possession before 1803, whether valued or not, it appears to our author as of no consequence to tenants who have taken land since that period; because, in framing their offers, the amount of the tax would be held in view. In short, when attempting to defend one part of the act, our author accuses it of enacting the grossest injustice in another. According to his principles, 15 *per cent.* is levied from proprietors of land, when no more than 10 *per cent.* can possibly be levied from the monied, manufacturing, and commercial classes!

But our author comforts the holders of old leases by remarking, that if they did not know of the Property-tax when they entered to possession, so neither did they know of the act which afterwards was passed for raising the rates at which corn could be imported from foreign countries duty free, and that the hardships of the one measure are amply compensated by the benefits of the other. Now, it strikes us, that the advance of importation rates was occasioned by the increased value of labour and permanent public burdens, since the former act for regulating importation was passed; at least these were the arguments used in Parliament by the supporters of the bill. We are perfectly satisfied, that Britain, in ordinary seasons, does not produce corn in a sufficient quantity to supply the consumption of its inhabitants; therefore entertain not the slightest doubt concerning the advantages furnished to agriculturists by the act passed in 1804, for raising importation prices. But raising these rates did not mend the condition of agriculturists more than existing circumstances required. In fact, when the money value of every article of outlay upon farms is considered, it will be found, that the importation prices fixed by that act are much lower than those settled at the Revolution, when the corn laws were first reduced into a regular system.

But, were we to grant every thing which our author has stated

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on this point, how will he support the propriety of the rules by which the property-tax is assessed, when the act is applied to a class of tenants who perhaps possess one half of the kingdom? We here allude to the tenants of grass land, who most certainly were not benefited by the advance made upon the rate of importation prices. It is needless to push this argument further, for it is unanswerable. Neither need we urge, that none of our author's arguments apply to a single tenant whose farm has been valued by the commissioners appointed under the Property-act. Such valuations were made upon rackrent principles, or according to the supposed worth of land at the time; therefore a tenant so circumstanced was, so far as related to the tax, exactly in the same situation as if he had taken a new lease from his landlord. If the author reflects upon these things, he will find, even allowing his leading argument to be correct, (which, we contend, it is not), that the act passed for raising the rates at which corn could be imported from foreign countries duty free, bears little, if at all, upon the subject he was investigating. If there is any connexion, it can only extend to a few corn farms, taken before 1803, which have not been valued; but the number of these is too trifling to influence the merits of the general question.

With regard to the *second* point, viz. Whether the Property-tax upon farms entered to since 1803 is paid by the tenant or landlord; it may be remarked, that the tax being a war one, and not expected to last for many years, competitors have seldom viewed it as a burden which ought to influence them when valuing land for a lease of nineteen or twenty-one years endurance. Should the tax become permanent, or even should it be continued for any considerable length of time, there can be no doubt that, like the old land-tax, it must at last fall upon proprietors. This doctrine we have repeatedly inculcated, and it is consistent with the common sense of mankind. Hitherto the tax has operated upon the tenantry, because it was considered as a temporary burden. In fact, we do not believe that a single offer for land has been limited or lessened because the tax was in existence. The tax is a fair one if confined to gains and profits; but it deserves a different character when levied according to a false, unequal, and impolitical criterion. The criterion is false, because the profits of a farm set at rackrent cannot possibly amount to one half of that rent. It is unequal, because it assumes, as a principle, that every farm is set upon the same terms; and it is impolitical, because capital, which ought to be employed in the improvement of the ground, is thereby extracted from the tenant at his entry, when he seldom has either gains or profits. Whatever force is attached to these objections,

we must repeat, that if the tax is suffered to remain for a few years longer, it will necessarily be transferred from the shoulders of the tenants to those of their landlords.

But our author forgets that the tax has been two times increased since 1803; and he does not attend that, though every one of his arguments may be correct when applied to the original assessment, none of them are applicable, or can be conclusive, when the present scale of assessment is judged upon. In 1803, the tax was fixed at 5 *per cent.* upon what was called income, or $2\frac{1}{2}$ *per cent.* upon rental. Now, let us suppose that a prudent tenant, who offered for land in 1808, actually deducted $2\frac{1}{2}$ *per cent.* from the estimated value when he made his offer, and that the landlord was pleased to accept of his offer with that deduction, what are we to say with respect to the additional $1\frac{1}{4}$ *per cent.* imposed in 1805, and the still greater addition of 1806, whereby the original tax was doubled? Surely it must be allowed, that tenants who entered into lease in 1803 and 1804, pay 5 *per cent.* upon supposed gains and profits, or $2\frac{1}{2}$ *per cent.* upon rental, above what they had then any cause to expect; and that those who entered in 1805 are also increased $3\frac{3}{4}$ *per cent.* in the one case, and $1\frac{1}{4}$ *per cent.* in the other. If our author can make out the contrary, we will cheerfully give up the cause; but, unless he can do this in a satisfactory manner, we must insist that he has totally failed to prove, '*that, of all the different classes of the community, the farmers are those who have the least cause of complaint on the score of the property-tax.*'

In the *second* place, as 15 *per cent.* is undoubtedly assessed upon land, the next question that occurs is, Who pays that assessment? The act says, that the proprietors are to pay 10 *per cent.*, and the tenants the remainder. Our author, however, maintains, that the farmer who has taken land since 1803, is altogether free, and, of course, that the proprietor pays 5 *per cent.* more than his just and legal share. If this be the case, he need not be surprised that the heritors of several counties are somewhat alarmed; because it is plain, instead of giving one tenth of their incomes to government, they are in reality giving something more than one seventh, when the monied interest cannot possibly be compelled to pay above one tenth, and the manufacturing and commercial interest hardly any more than what they please. We apprehend that our author has got into a labyrinth out of which he is not to be easily extricated. He must either allow that farmers pay 5 *per cent.* upon rents, as their share of property-tax, or admit that proprietors pay 15 *per cent.*, while no other class of the community can possibly be obliged, under the present act, to pay more than 10 *per cent.* He may choose the alternative; but whether

ther he allows or admits, the errors of the Property-act must be equally evident to any person who considers the subject in the slightest manner.

In the *third* place, let the Property-tax, as it affects land, be considered in any view that its supporters please, it is demonstrable that injustice is committed some way or other. If the tax is wholly paid by the landlord, then there can be no question concerning the injustice done him. The ground we have always occupied, when discussing the Property-act, is, that tenants suffered by it in the first instance, but that ultimately proprietors would have to bear the burden. Had the tenant's tax, however, been calculated upon gains and profits, this could not have happened. Had the proprietor been rated according to the rents which he received, after deducting certain public burdens; and had the tenant been considered as a manufacturer upon the proprietor's estate, with whom no other connexion subsisted than what arose from paying a certain sum in lieu of ground rent by that manufacturer, then every difficulty would have been obviated. The tax upon each would have been levied according to their respective incomes; upon the proprietor, according to the amount of the rents paid him, and upon the tenant, *i. e.* manufacturer, according to the extent of his gains and profits. In this way, no reasonable cause of complaint would have remained, because none could be assessed, unless income was actually received and in their possession.

We cordially agree with the other remarks made by our correspondent. Indeed they are quite in unison with the sentiments we had lately occasion to offer, when noticing the communication of 'A Constant Reader,' though our correspondent could not at that time have had an opportunity of examining them. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Substance called Nostick.

SIR, *D—g—r, Dumfries-shire, 30th June* 1808.

I beg leave to present to the curious, through your useful publication, the following communication relative to nostick.

Of this jelly-like substance, found in the fields after rain, much has been said and written both in ancient and modern times. It has passed under various names, as star-shot, witches' butter, flos-æris, &c. The alchemists alleged it afforded a menstruum for gold, and contained other wonderful qualities.

Parcellus has ranked it with manna, and thought it dropped from heaven. In later times, it has been supposed a vegetable

production. Dr Merret calls it *Lichen humiditate intumeſcens;* Dr Haller, *Lichen gelatinoſus, plicatus undulatus;* and ſome botaniſts, as Dr Moriſon and Micheli, call it a *Fungus*, and deſcribe the ſeeds of it. Even the great Linnæus conſiders it as a vegetable, and calls it, in one edition, *Byſſus gelatenoſa fugax terreſtris;* in another, *Tremilla plicata undulata.*

Lately, it has been conſidered as the ſubſtance of a frog, reduced to this ſtate by paſſing through the body of ſome bird, as a heron; and the proofs were, that ſome obſervers had noticed the feet, legs, &c. of a frog, along with the jelly, undiſſolved, ſometimes blanched.

Accident, with ſlender obſervation, will ſometimes unfold, where keen penetration has failed.

On the 4th June laſt, after conſiderable rains, I found this ſubſtance full of black ſpots; on turning it over, I noticed the full ſkeleton of a frog, that is, the ſkin and bones; the ſkin of the natural colour, the fleſh moſtly diſſolved or corrupted from the bones, and the internal parts gone. *

People in the country are generally acquainted with the ſpawn of frogs, as it appears in little pools of ſtanding water, and alſo with its appearance in a dried ſtate, after extreme dry weather has evaporated all the water in the pool.

Upon comparing theſe, I am ſatisfied that this noſtick is neither more nor leſs than this frog ſpawn in a premature ſtate, and theſe black ſpots the ſeed of the tadpoles.

This may be produced by a bird ſwallowing a frog, in certain circumſtances, whoſe ſtomach is in general equal to the digeſtion of the whole carcaſe; but perhaps the ſpawn is indigeſtible, and of courſe voided. This ſpawn, when dropped on dry ground, paſſes unnoticed; but if much rain ſucceeds, that ſwells it greatly, leaving it ſimilar to what it would have been in the pool in a more ripened ſtate, according to the ordinary courſe of nature.

A mode of proving all this might be eaſily ſuggeſted; but the experiments would bear affinity to thoſe of the elegant, but cruel Italian R–d–.

By inſerting this with your firſt convenience, you will much oblige, Sir, your obedient ſervant, J. G.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Tros, Tyriusque mihi nullo diſcrimine habetur.

SIR,

WHEN a learned Judge deigns to ſtoop from the ſublimity of the Bench to the bathos of the barn, plain men expect, at leaſt, ſound,

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* I incline to think this frog met its death by accident; it was found on a private road, where carts had been paſſing both early in mornings and late at night. J. G.

sound, rational information, and a fair statement of facts. In Vol. V. Part I. page 97, of Communications to the Board of Agriculture, a learned Baron of the Exchequer says, '*A six horse 'power thrashing-mill will thrash easily, from six to eight quarters 'of wheat in the hour; but the horses must walk four miles in the 'hour, to give sufficient velocity and impetus to do the work well.*' It is denied that this quantity of wheat, viz. seven quarters, is thrashed in the course of real business, in the time specified; and an appeal is here made to *practical men* to say, whether the average of a day's, or half a day's work, is not nearer 3½ than 7 quarters in the hour, with six horses. Does the Honourable Baron really think that horses can '*easily*' walk four miles in the hour in a thrashing machine, *admitting one were calculated for that rate of pace?* It is humbly apprehended they cannot walk at that rate, without great distress, for even one hour, far less for four hours, the usual duration of a yoking or journey. But thrashing machines are, or should be calculated so, that the horse's rate does not exceed two miles in the hour. If, therefore, they are driven at the rate of four, it is evident to *plain men*, whatever it may be to a *Baron of the Exchequer*, that neither horses, nor machinery, can endure such treatment. The former must soon sink under the fatigue, and the latter fly, or be torn to pieces, by the centrifugal force, generated by a velocity of the switchers of six thousand feet *per* minute, 720 feet more than a mile *per* minute. If the learned Baron understands the business of the Exchequer Court no better than that of his corn-barn, and has no more mercy on delinquents against the revenue than on his poor horses, it is high time he was invalided. As Mr Meikle lives not a hundred miles from his country seat, he would then have time to attend his school, and learn to descant on thrashing machines with more truth and consistency. For, let him recollect, though there may be quibbling in law, there is none in science.

'*Te,*' *Baro,*
'*Discipulorum inter jubeo plorare Cathedras.*'

PHILALETHES.

FOR THE FARMER'S MAGAZINE.

[The late Session of Parliament is, by many people, considered to have been one of the busiest which has occurred for several years; and, in like manner, the Session of the Board of Agriculture, which concluded on the 7th of June last, must be regarded as an active and interesting one. The different measures which occupied the attention of the Honourable Board, are so distinctly specified in the following Address, that we think it unnecessary to say more, than merely calling the attention of our readers to what is stated by the worthy and patriotic President.]

Address

Address to the Board of Agriculture, by SIR JOHN SINCLAIR, *Baronet, the President, at the Conclusion of the Session, on the 7th of June,* 1808.

GENTLEMEN,

IN conformity to the usual practice, at the termination of the meetings of the Board for the year, I now beg leave to submit to your consideration, a short detail, of the various particulars which have principally occupied our attention, during the session about to terminate, and which it is impossible to reflect on for a moment, without a deep conviction of the many public advantages which must necessarily be derived from this Institution.

I. *Machinery.*—There is no object to which the Board can direct its attention, of more importance, than to improve the machinery employed in agriculture. In many cases, by such improvements, the same quantity of work can be better executed, or can be performed by fewer horses, and consequently at a cheaper rate. By such means, therefore, the increasing price of human labour, and, as a necessary consequence, a higher price for human food, can best be counteracted. The improvements in machines transmitted to the Board, within these few months past, are numerous and important. Among these are to be enumerated, 1. Mr Andrews's *Expanding Axletree*, by which the breadth of various descriptions of carriages employed in husbandry, may be altered at pleasure; also a waggon invented by the same mechanic, so well constructed, that it can turn in almost any situation, and can be drawn in any direction; consequently, is peculiarly well calculated for narrow lanes, for drawing timber out of forests, and would probably be of singular utility in another department, namely, in conveying artillery. 2. *An Auger*, said to have been invented in North America, on an ingenious principle, which clears itself, and which will probably be found applicable to Mr Elkington's mode of draining, and other agricultural purposes. 3. *Garnet's Patent System*, made at Bristol, by which the friction in churns, and other agricultural instruments, is greatly reduced. * 4. *A Gorse Mill*, used on the late Lord Penrhyn's estate in Wales, by which furze is bruised in such a manner, that horses and cows can eat it with pleasure; and with such a machine, where furze can be had from waste grounds, it must be a valuable resource for cattle, more especially in times of scarcity. 5. *An Improved Thrashing-Mill*, invented by Mr Moodie, an ingenious mechanic near Edinburgh, at a price which will not exceed 60*l.*, which is uncommonly strong, will require but little repair, takes up but little space, and by means of which, two

* A churn thus improved, may be seen at the Board of Agriculture.

two horses will thrash a considerable quantity of any species of grain, without working harder than if they were at plough. * And, 6. *A Swing-Plough*, made on the principles recommended by Mr Jefferson of America, by the late Mr Macdougall, whose merits, in the department of Agricultural Mechanism, are so universally acknowledged, and which bids fair to bring that valuable instrument of husbandry to all the perfection of which it is capable. †

II. *Domestic Productions.*—The political situation of Europe at this time, the convulsed state of its commercial relations, and the general combination of the Continent against these kingdoms, must necessarily be productive of circumstances, in some respect unfavourable to the agriculture, and in other respects to the commerce, of the country. Among the agricultural productions which the war has tended to depreciate, that of long wool is one of the most important, and the fall in its price has been considerable. An ingenious farmer (Mr Whitworth, near Doncaster) was thence led to try, how far such wool might not be made applicable to the making of sacking, of ropes, and a variety of other articles, and the plan is likely to be successful; in particular, there is reason to believe, that wool will be found peculiarly well adapted to be employed in making cots or hammocks for our seamen, not being so liable to take fire. Tents made of wool, also, must be better calculated for resisting wet, than when canvas is used for that purpose. By these means, a double object may be obtained; that of increasing the value of our own productions, and of diminishing the consumption of articles imported from a country now unfortunately at variance with us.

Here it may be proper to observe, that in consequence of an application from the Commissioners of Naval Revision, the attention of the Board has been particularly directed to the cultivation of hemp. Every information upon that subject, which the records of the Board could furnish, has been given to that useful institution; and with a view that the growth of hemp might not interfere with the production of human food at home, and that its cultivation might be promoted in our colonies abroad, premiums

* This thrashing-mill is to be seen at Mr Collinge's manufactory, Bridge Row, Lambeth.

† Under this general head may be mentioned, the whalebone sieves, and nets for confining sheep, invented by Mr Bowman, which are evidently much more durable, and in other respects greatly preferable to any article of the same sort now in use. It is certainly desirable, also, by increasing the consumption of whalebone, to promote our fisheries, which, like other branches of domestic industry, cannot be too much encouraged.

miums have been offered to the perſon who ſhall cultivate the greateſt number of acres (not leſs than four) with hemp, *on drained peat bog*, and to thoſe who ſhall report to the Board the beſt means of promoting the cultivation of that article in our American colonies.

III. *Potatoes.*—This moſt valuable article cannot be too much recommended as an excellent ſource of human ſuſtenance. There were two obſtacles to its extenſive cultivation; 1. the diſeaſe called the curl, to which it is frequently liable; and, 2. the ſuppoſed difficulty of preſerving the root beyond one ſeaſon. Under the auſpices of the Board of Agriculture, both theſe objections to the extenſive culture of potatoes are likely to be removed. In regard to the curl, it would appear, from the experiments of Mr Crozer of Alnwick in Northumberland, that it can be effectually prevented by ſowing the potatoes intended for ſeed *later*, and taking them up *earlier*, than when intended for food. Several buſhels of potatoes, treated in this manner, have been purchaſed by the Board, and diſtributed in the neighbourhood of London, ſo as to give the experiment a fair trial. In regard to preſerving potatoes beyond one ſeaſon, it is aſcertained by the experiments of Mr Boys of Belſhanger in Kent, that by cutting them in thin ſlices, and drying them in a hop, or other kiln, * they may be kept for years, even at ſea, either in thoſe ſlices or ground into meal. By theſe means no part of the potatoe is loſt, the ſolid matter is all retained, the moiſture only being evaporated, and the meal may be conſumed in various modes as human ſuſtenance. It may be proper alſo to obſerve, that by cutting the bloſſoms of the potatoes, the roots are greatly improved, and the quantity of the produce conſiderably augmented. †

IV. *Foreign Productions.*—The preſent circumſtances of this country, and of the reſt of the world, render it extremely difficult to import any articles of foreign growth to be cultivated here. The Board, however, has not been inattentive to ſo great a ſource of improvement. Underſtanding that a ſpecies of barley had been brought by an ingenious traveller from Greece, which was extremely productive, and peculiarly calculated for feeding horſes, (by

* In hot climates they might be dried in the ſun. Potatoes thus dried, may anſwer for feeding ſtock, inſtead of oats or beans.

† This uſeful practice, of cutting off the bloſſoms of the potatoe, has only been recently diſcovered in the weſt of Scotland. It can be done by boys and girls, at no great expenſe. The nouriſhment that would otherwiſe go to the apple, is thus tranſferred to the root. It is to be hoped that many will try the experiment, in the courſe of this ſeaſon, and will report the reſult to the Board.

(by which, if found to anſwer, the importation of many thouſand quarters of oats would be rendered unneceſſary), means have been taken to try that article, even in the remote parts of the kingdom, as the grain ſeems to reſemble the bear or big now produced there. Application has alſo been made to Colonel Williamſon, whoſe long reſidence in America has given him a thorough knowledge of the productions of that part of the world, to exert his influence to procure ſeveral articles likely to be of uſe here, in particular the ſeeds of the pitch-pine and of the ſwamp-pine, which he has promiſed to procure, and which will probably be found valuable acquiſitions.

V. *Roads.*—The inquiries which have been carried on in Parliament, on the recommendation of the Board of Agriculture, regarding roads, wheel-carriages, and all the variety of particulars therewith connected, are likely to prove in the higheſt degree advantageous to the country. A committee for proſecuting thoſe important inquiries was appointed in the courſe of the preſent ſeſſion, by whom two reports have been already preſented, which are now in the preſs, and a third is preparing. The effect of theſe inquiries muſt be of infinite conſequence, if zealouſly acted upon; and if any thing effectual is done, it muſt, in a great meaſure, be attributed to the exertions of the Board of Agriculture. If carriages were properly conſtructed, fewer horſes would be neceſſary to convey the ſame quantity of goods; and if the roads were formed on better principles, the carriages would laſt longer, the horſes would be leſs injured, the roads themſelves would require leſs repair, and, from the various expenſes which would thus be ſaved, there is every reaſon to believe that the nation would be enriched, or rather its annual expenditure would be diminiſhed, on the ſmalleſt computation, to the amount of from five to ſix millions *per annum.* Such are the advantages reſulting from an attention to objects connected with internal improvement. It is by ſuch meaſures alone that a nation can become permanently great, and truly happy. By them its ſtrength, and the felicity of its people, may be hourly increaſed; whilſt foreign conqueſts are, too often, the fatal ſources of boundleſs expenſe, and of domeſtic debility.

VI. *The Colonies.*—The Board of Agriculture has always been moſt anxious to promote the proſperity of the colonies, and other diſtant appendages of the empire, wherever it was conſiſtent with the paramount intereſts of the mother country. With that view, the ſeeds of Lucern and Guinea-graſs were ſent to the Eaſt Indies, where they have been productive of the moſt important conſequences. The culture of potatoes, alſo, was firſt extended in the Eaſt, under the auſpices of this Board. To promote the advantage

tage of the Weſt India colonies, ſeveral ſeeds were procured in the Eaſt, and ſent to the Weſt Indies, where they are likely to produce much benefit. There being every reaſon alſo to hope that ſugar might be advantageouſly employed in feeding live ſtock, premiums have been offered by the Board for aſcertaining the value and effect of ſugar applied for that purpoſe, and for diſcovering any admixture that will prevent ſugar, intended to be applied in feeding ſtock, from being fraudulently employed for common purpoſes.

VII. *Cattle.*—It is of infinite importance to aſcertain the feeding qualities of the different breeds of cattle, reſpecting which no accurate comparative experiments have hitherto been made. The expenſe would be ſo conſiderable, that it could not be undertaken by the limited funds which the Board are poſſeſſed of; but the object was ſo material, that the Board reſolved to offer a premium of 100 guineas to promote ſo important an experiment; and various leſſer ſums have been voted for the ſame object, by ſeveral public ſpirited agricultural ſocieties, who are anxious to promote any uſeful object which the Board has reſolved to patronize. Fortunately, alſo, a very reſpectable member of this Board (Mr Curwen, member for Carliſle) has declared his intentions of becoming a candidate for the premium in queſtion. Of his impartiality, judgment, and zeal in the cauſe, there can be but one opinion.

VIII. *Miſcellaneous Articles.*—It is difficult to enumerate the variety of other objects, to which the attention of the Board has been directed, in the course of the preſent ſeſſion. Experiments are trying, from plants transmitted by Lord Redesdale, with the Fiorin grass of Ireland, ſo ſtrongly recommended in a valuable eſſay, communicated by Dr Richardſon. An intelligent practical paper on the uſe of gypſum, as a manure, has been inſerted in the volume of communications, with a view of laying a foundation for aſcertaining the advantage of using it in this country, and the ſoils and ſituations to which it is applicable. In the ſame volume will be found, the plan of a houſe, calculated for the reſidence of a country gentleman of moderate fortune, in which economy and convenience are equally conſulted. Meaſures have been taken, to recommend a mode of recovering corn damaged by bilge water, which cannot be effectually cured by any practice formerly known, and by means of which, it is ſuppoſed that conſiderable quantities of grain may be rendered fit for uſe, which otherwiſe muſt have been thrown away. Various premiums have been given for irrigation, embankments, and other uſeful improvements, in different parts of the kingdom. An important fact has alſo been aſcertained, regarding the feeding of horſes with tares, and which is applicable to green food in general. It is well

well known, that where the ground is tired of clover,* tares are the best substitute: indeed, in the opinion of Mr Arthur Young, they are as useful as clover for feeding stock, and may be advantageously succeeded by a crop of wheat, if the ground is merely scarified after the tares, and not ploughed, which would make it too loose for that crop. It has been objected to tares, that they would not answer if horses were very hard worked, or employed in posting. Mr Wood, of Ingatestone in Essex, however, has, for many years, soiled all his post horses upon tares, with no other precaution than that of keeping them from water. This furnishes a most valuable hint to owners of post horses, when hay is scarce or dear; and it points out the advantage of giving little water with green food of any description. †

IX. *Lectures.*—In the course of this session, several lectures on most interesting subjects have been delivered to the members of the Board, which must be too fresh in the memory of the gentlemen here present, to render it necessary for me to dwell upon them. It may be proper, however, to observe, that these lectures are not intended solely for the members of the Board; but that, as soon as they are matured, they are to be printed for the information of the public, and the attention of those intelligent gentlemen, by whom they were delivered, directed to other objects. As little time as possible, I hope, will be lost in printing these valuable productions; for the curiosity of

* From a philosophical chemist, however great his talents, we cannot reasonably expect the practical application of his own hints; but Mr Davy, in a late lecture, made an observation which may prove of great importance. It is well known, that in those districts where clover has been long cultivated, that crop is almost sure to fail, if repeated in every course of four or five years; and this failure has had bad effects on the productiveness of the wheat crops. The farmers have, in such cases, been obliged to sow it no oftener than once in two courses. Mr Davy has found so much gypsum in the ashes of clover, that he conjectures the failure of the plant may be caused by the gypsum being exhausted: to replenish the soil with so cheap a manure, would be a most easy cure; and the experiment deserves a trial by every practical husbandman, who has had experience of any failing crops of this plant.

† Mr Wood, who is remarkably attentive to the management of his horses, has observed, that when any horse has a wound, the only chance of a cure, if it be a bad one, is keeping him from water. He had some cases so bad, that cures were despaired of; but by an absolute prohibition of water, till the wounds run good matter, he has effected several surprising cures. May not this furnish a hint applicable to other cases?

of the public will naturally be strongly excited to read the sentiments of Mr Young on tillage and farm yards, and of Mr Walker on the construction of implements of husbandry; and to know how the splendid discoveries of a Davy can be applied to agriculture.

X. *County Reports.*—The idea of ascertaining the agricultural state of every district in the kingdom, and of printing each survey, according to one uniform model, is the greatest undertaking ever attempted by any institution; and, though carried on with funds extremely inadequate to such an attempt, yet it is at last in a fair way of being happily accomplished. All the counties in England will be completed in the course of this year. Several will remain to be done in Scotland, for the execution of which fit persons can be procured, as soon as adequate funds are obtained for that purpose. In the course of this year, five reports have been already printed, and eight transmitted to the Board in a state ready for publication; so that the progress has been considerable, and the termination of this most important undertaking, by which so large a proportion of the funds of the Board has hitherto been absorbed, is probably at no great distance.

The advantages to be derived from these reports, are universally recognized in foreign countries; for the same plan has been already adopted in France and Russia, and will probably be imitated in every other civilized country. A letter has lately been received from a celebrated agriculturist in France, in which he states his opinion, 'that such a measure is the most useful that can be undertaken, for bringing, in a short space of time, agriculture to a high degree of perfection.'* Indeed the information furnished by the various reports and communications published by the Board, far exceeds what is generally apprehended. Dr Coventry, Professor of Agriculture in the University of Edinburgh, who, from his situation, is led to examine every work connected with the subjects on which he lectures, has recently declared, 'that in these late reports and publications, there is detailed more useful and distinct information, on various branches of agriculture, and on rural concerns in general, *than was in print before these were drawn up.*'† What then may not be expected, when all these reports

* The French expressions are, 'Je crois que ce travail est le plus utile de tout ceux qu'on peut entreprendre, pour amener, dans un tres court espece de temps, l'agriculture à un grand degré de perfection.'

† See Discourses explanatory of the Object and Plan of the Course of Lectures on Agriculture and Rural Economy, by Dr Coventry, 1 vol. octavo, printed at Edinburgh, 1808, p. 187.

reports are completed, for little more than one half of them were printed, when this idea of their merit and utility was formed by Dr Coventry.

XI. *Code of Agriculture.*—The great object of all the inquiries carried on by the Board of Agriculture, is with a view of combining the result of the whole into one general code, for the purpose of rendering a general knowledge of the principles of husbandry more easily accessible. The importance of such an undertaking need hardly be dwelt upon, not only in regard to agriculture, but also as furnishing an example of the practicability of condensing human knowledge regarding other branches of art and science. Such a work could not be drawn up, until a foundation was laid, by a careful examination of the agricultural practices of every district in the kingdom. As soon as that work is accomplished, the code of agriculture will be carried on with energy; a specimen of which has been printed and circulated by the Board, on the subject of enclosures. It is proposed, when the work is undertaken, to give distinct heads or chapters to those individuals who are the most conversant in each department of husbandry. This great undertaking will, I trust, be sanctioned by the peculiar approbation both of the Legislature and of the Government of the country, as likely to promote, in a high degree, the most important national improvements.

XII. *Importance of Agricultural Pursuits.*—No country can have stronger inducements to attend to its agricultural interests than Great Britain at the present moment. Secluded from so large a proportion of the globe, and its commerce cramped in every direction, it must, in a great measure, rely on its own internal resources for its security and strength. Fortunately, in these resources, it has a mine of wealth which cannot be exhausted. We have only to pay the necessary attention to the improvement of our own soil, and we may despise the efforts of our enemies, however numerous or powerful. We are told, indeed, 'that from the state of our foreign relations, and the consequent probability that our usual supply of grain from foreign countries may fail us, that measures of precaution are necessary, which may eventually ward off so great an evil as a scarcity of provisions.'* But the best precaution is, to extend our agriculture, to increase the productions of our soil, to ameliorate the mode of its cultivation, and to remove every obstacle hostile to its improvement. By these means, judiciously applied, instead of importing from foreign countries, we might soon again become an exporting country; and the com-

* See the Report of the Sugar Distillery Committee, p. 13.

merce of grain, inſtead of being the means of impoveriſhment, would become a ſource of wealth.

CONCLUSION.

Before concluding this Addreſs, I cannot deny myſelf the pleaſure of preſenting to the Board the proof of an engraving, † executed from the buſt of that diſtinguiſhed perſonage (the late Duke of Bedford), who, whilſt he was alive, took ſo warm an intereſt in all our proceedings. An engraving from that buſt cannot fail to be acceptable to every true friend to rural improvement; and indeed, I hope that the Board will approve of the idea, that a certain number of copies ſhall be placed at the diſpoſal of the noble Duke by whom that buſt was preſented, and that every member of the Board, and indeed every individual diſtinguiſhed by his zeal for, and devotion to, agricultural purſuits, ſhall receive a copy, as a memorial of a character ſo illuſtrious in various reſpects; but peculiarly diſtinguiſhed for his determined attachment to the cauſe of huſbandry. In the memorable words made uſe of by Mr Fox, when he moved a new writ for Taviſtock,—'To contribute to the welfare of his fellow-citizens, was the conſtant unremitted purſuit of his life; and, by his example and his beneficence, to render them better, wiſer, and happier.' How few are there who have any juſt claims to a ſimilar eulogium!

I ſhall conclude with expreſſing my ſincere hopes and wiſhes, that we ſhall meet next Seſſion in health and ſpirits, and as anxious as ever to promote the improvement and proſperity of the country.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Observations upon the Copy of a Lease inserted in last Number.

SIR, *Laurieſton, 1st July*, 1808.

UPON the peruſal of the excellent ſpecification of a leaſe contained in your laſt Number, the only clauſe which appears to afford any room for improvement is the following:—'And to maintain and keep in good condition, during the currency of the leaſe, the whole houſes, drains, or water-courſes, fences, and gates, on the ſaid farm, and to leave them in *a proper ſtate of repair* at his removal.' It may be ſaid, (and thoſe who have experienced the greedy and captious diſpoſition of many outgoing tenants, know the truth of it), that the expreſſion '*proper ſtate of repair*,' is by far

† The drawing is executed by Mr Burney, and the engraving by Mr Anker Smith, in a manner that does great credit to both these artists.

far too indefinite. Might not the clause, therefore, be better conceived in the following manner?—'*And to maintain and keep in good condition during the currency of the lease, and leave so at the expiration thereof, or at his removal, the whole houses, drains, or watercourses, fences and gates on the said farm,* ALL THESE BEING VISITED AND APPROVED AS IN SUCH CONDITION, BY TRADESMEN, OR PROPERLY QUALIFIED PERSONS, MUTUALLY CHOSEN BY THE PARTIES.'

Yours most respectfully,
J. B——K.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Method of making Cider in the County of Kirkcudbright.

SIR, *Stewartry of Kirkcudbright, 5th Auguſt,* 1807.

IF you conſider the following ſhort account of a ſimple method of making cider, entitled to a corner of your uſeful and intelligent Magazine, I ſhall be peculiarly gratified. It was practiſed with ſucceſs laſt year in this county; and the ſame mode may be adopted in other parts of Scotland, where cider has not hitherto been manufactured. If poſſible, I am particularly anxious that it ſhould appear in your firſt Number, and before the ſeaſon for making cider has elapſed.

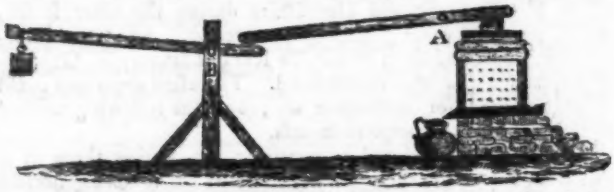
In the year 1806, the orchards in Galloway produced a very full crop. Apples were ſo plentiful, that thoſe of the fineſt quality could only be ſold for about 3s. per Wincheſter buſhel, while the inferior kinds were not ſaleable at any price; and, rather than loſe the fruit entirely, it was propoſed by the proprietor of an orchard in this county of conſiderable extent, to attempt, by way of experiment, the manufacture of cider. Although ſome of thoſe perſons immediately concerned with the orchard had been both in Herefordſhire and Devonſhire during the cider ſeaſon, none of them knew the proceſs very correctly. Additional information was obtained from Marſhall's Rural Economy of Glouceſterſhire, and a fair trial commenced. The uſual apparatus could not be procured for immediate uſe; and the following method was reſorted to with complete ſucceſs.

The apples were reduced to mucilage, by beating them in a ſtone trough (one of thoſe uſed at pumps for watering horſes) with pieces of aſh poles, uſed in the manner that potatoes are maſhed. The preſs conſiſted of a ſtrong box, 3 feet ſquare, and 20 inches deep, perforated on each ſide with ſmall auger or gimlet holes. It was placed on a frame of wood, which projected 3 inches beyond the baſe of the box. A groove was cut in this pro-

jection $1\frac{1}{2}$ inches wide, and 1 inch deep, to convey the juice when preſſed out of the box into a receiving pail. This operation was performed in the following manner. The box was filled alternately with ſtrata of freſh ſtraw and maſhed fruit, in the proportion of one inch of ſtraw to two inches of mucilage: theſe were piled up a foot higher than the top of the box; and care was taken, in packing the box itſelf, to keep the fruit and ſtraw about one inch from the ſides of the box, which allowed the juice to eſcape freely. A conſiderable quantity of the liquor will run off without any preſſure. This muſt be applied gradually at firſt, and increaſed regularly towards the concluſion. A box of the above dimenſions will require about two tons weight to render the reſiduum * completely free of juice.

The neceſſary preſſure was obtained very eaſily, and in a powerful manner, by the compound lever preſſing upon a lid or ſink made of wood about 2 inches thick, and rendered ſufficiently ſtrong by two croſs-bars. It was made to fit the opening of the box exactly; and as the levers forced the lid down, they were occaſionally ſlacked or taken off, and blocks of wood were placed on the top of the lid, to permit the levers to act, even after the lid had entered the box itſelf. Additional blocks were repeated, until the whole juice was extracted. The preſſure may be increaſed more or leſs, by adding or diminiſhing the weight ſuſpended at the extremity of the lever.

I annex a ſection of the preſſing machine roughly ſketched. It requires little explanation; but it may be neceſſary to ſtate, that the fulcrum of the firſt lever at A, was fixed in the ſide-wall and gable, acroſs, at the right-angled corner of a brewhouſe, allowing room for the box to ſtand exactly in the corner, as it was neceſſary to have ſufficient weight above to reſiſt the preſſure upwards at the fulcrum A. The preſſure at the fulcrum B, of the ſecond lever, being downwards, the reſiſtance was eaſily obviated.



The liquor thus obtained was allowed to ſtand undiſturbed 12 hours, in open veſſels, to depoſit ſediment. The pure juice was then

* The residuum is excellent food for pigs, and peculiarly acceptable to them.

then put into clean caſks, and placed in a proper ſituation to ferment, the temperature being from 55 or 60 degrees. The fermentation will commence ſooner or later, depending chiefly on the temperature of the apartment where the liquor is kept; in moſt caſes, during the firſt three or four days; but ſometimes it will require more than a week to begin this proceſs. If the fermentation begins early, and proceeds rapidly, the liquor muſt be racked off, and put into freſh caſks in two or three days; but if this does not take place at an early period, and proceeds ſlowly, five or ſix days may elapſe before it is racked. In general, it is neceſſary to rack the liquor at leaſt two times. If, notwithſtanding of this, the fermentation continues briſkly, the racking muſt be repeated; otherwiſe the vinous fermentation, by proceeding too far, may terminate in the acetous fermentation,—when vinegar would be the reſult.

In racking off the liquor, it is neceſſary to keep it free of ſediment, and the *ſcum* or yeaſt produced by the fermentation. A ſupply of ſpare liquor muſt be reſerved to fill up the barrels occaſionally, while the fermentation continues. As ſoon as this ceaſes, the barrels ſhould be bunged up cloſely, and the bungs covered with roſin, to prevent the admiſſion of air. If the cider is weak, it ſhould remain in the caſk about nine months; if ſtrong, twelve or eighteen months is neceſſary before it ſhould be bottled.

The cider made in this county laſt year, was manufactured from 42 Wincheſter buſhels of apples, in the manner above deſcribed. That quantity produced about 2 hogſheads, of 63 gallons each. The total expenſe 18s., excluſive of the apparatus, which coſt nearly 24s. It was bottled at the end of nine months; and the quality is unexceptionable.

Although the fruit this ſeaſon, in Galloway, is not ſo plentiful as it was laſt year; yet, in ſome ſituations, and under certain circumſtances, it may ſtill be adviſeable to try the manufacture of cider.

I had no intention of tranſmitting you the above account of the manufacture of Galloway cider till laſt night, when I was adviſed by a friend to do ſo. I truſt you will therefore excuſe inaccuracy. I am, &c. FILL BASKET.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

ALLOW me to ſend you, for inſertion in the Farmer's Magazine, a ſhort account of the late Dr Alexander Ainſlie, who reſided ſome

time in the family of Lord Kames, and was the intimate friend of the celebrated Dr Cullen. I alſo ſend you four letters from Dr Ainſlie to his couſin the late Mr John Ainſlie, farmer at Abbay, near Haddington, which throw ſome light on the ſtate of huſbandry at their date: likewiſe, "Reflections upon the Principles of Agriculture;" which, I have reaſon to believe, were abridged from an eſſay given by Dr Ainſlie to the Edinburgh Society. I ſhowed the Abridgement to Dr Coventry, who thought it very ingenious; but, from a paragraph in one of the letters ſent you, he ſuppoſed the work from which the Abridgement had been taken, was executed by another perſon. I could not ſee that any paragraph warranted this concluſion; and am ſince confirmed in my opinion, that the work from which the Abridgement is taken, was Dr Ainſlie's own performance; for I had in my poſſeſſion, a few days ago, a large ſilver medal, which I have returned to Mr Alexander Ainſlie, Prince's Street, Edinburgh, the Doctor's nephew, which almoſt puts this out of doubt. On the obverſe of the medal, theſe words are engraven,—"*To Dr Alexander Ainſlie, Haddington, for the beſt Diſſertation on Manures, 1757.*" Legend, "*The Edinburgh Society.*" On the reverſe, "*Merenti,*"—both ſtruck.

Dr Alexander Ainſlie was the oldeſt ſon of Mr Alexander Ainſlie, writer in Dunſe. He ſtudied phyſic at Edinburgh, and was graduated at that Univerſity, on the 15th June 1754. About this time, he lived in the family of the late Lord Kames, and made many obſervations on his Lordſhip's mode of farming, in letters to a friend. After leaving Lord Kames, he ſettled as a phyſician in Haddington: but, impreſſed with a ſtrong inclination to viſit foreign countries, he accepted of the ſituation of a travelling companion to the heir of the Caſtlemilk family, then in Italy. For that country he ſailed in 1758, in the ſhip Concord of London, Captain Boyton. This veſſel foundered almoſt at the very moment Dr Ainſlie had retired to dinner with the captain, after loſing ſight of Great Britain; and all on board periſhed, except the mate.

Dr Ainſlie was a man of great ingenuity, and much regretted by thoſe who knew him beſt. He was highly eſteemed by the late Dr Cullen, with whom he became intimately acquainted ſoon after Dr Cullen's arrival in Edinburgh. I am, Sir, yours, &c.

A FRIEND.

Extracts of Letters from Dr Alexander Ainſlie, to his couſin Mr John Ainſlie, farmer, Abbay, near Haddington.

I. *On breeding Calves, &c.—from Letter, dated 16th April, 1754.*

'You may remember I promiſed, at our laſt meeting, to communicate whatever I found worth relating in Lord Kames's method

method of huſbandry; and that I may go on regularly, and perform my promiſe ſo far as I am able, I intend the following part of this letter as a preface to the work, which I ſhall continue as I make my obſervations, and as I find convenient opportunities of communicating them to you. Firſt, then, I would inform you, that one great diſadvantage which I labour under, is his Lordſhip's niggardlineſs of communication in this affair, which obliges me to uſe the greater circumſpection, or have recourſe for information to his ſteward. Next, I would have you remember, not always to expect things very material or new; becauſe, what may appear to be ſo to me, may have a quite contrary aſpect to you: however, I hope you will receive the good intention, as if it were a complete execution. You muſt likewiſe diſpenſe with all regularity, becauſe I ſhall always write down my obſervations as they occur. In my next letter, I ſhall begin with an account of the farm-ſtocking, &c. At preſent, I ſhall acquaint you that my Lord has this ſpring ſold twelve large oxen which were fed all winter upon hay and turnip. Some of them were extremely large and fat; but the moſt of them were about the bulk of your laſt year's B. M'Call. They ſold from 13l. to 20l. each; and one of them at 18l., killed in Dunſe, had 11 ſtone of tallow.

'I muſt likewiſe ſend you this information for the benefit of my aunt, that never one of our calves taſtes a drop of new milk, whether they be deſigned for ſlaughter or any thing elſe. All they get inſtead of milk, is a handful or two of lintſeed boiled in water till it ropes pretty much, and ſometimes mixed with a little ſkimmed milk. This is their diet; and, upon my word, I don't think I have ſeen larger calves any where than they are, though their mothers are only of an ordinary ſize.

'I found out this forenoon, that my Lord allows his ſervants to labour as much of his tough intractable ground as they pleaſe to plant with potatoes, and to reap the fruits of them, providing they leave the ſhaws behind them. He gives them ſome dry chaff in place of manure; and I ſee ſome of his formerly uſeleſs pieces of boggy ground (as they tell me) put on a good appearance only by this treatment.'

II. *On Planting Potatoes, &c.—from Letter, dated 3d May,* 1754.

'The ground juſt now in his Lordſhip's hands, is computed about 250 acres, which are divided into 26 encloſures ſurrounded with hedges and ditches, and here and there adorned with a ſolitary tree, a circular clump upon any riſing ground, or a defence of planting along any of the moſt expoſed ſides. Wherever the regular diſpoſing of the ridges leaves any angular, irregular ſpace, or wherever there is a corner wetter or more untractable than the reſt of the field, there trees are planted. The greateſt part of

theſe enclofures is laid out in graſs; and ſo many only kept in tillage as afford employment for three ploughs, two of which are drawn each by a yoke of oxen, and as many horſes; and the other by four horſes. The number of theſe ploughs will ſoon be diminiſhed, becauſe he intends to throw moſt of it into paſture ground. The labouring inſtruments differ little from the common. One plough has its head entirely iron, which I imagine I need not deſcribe to you; nor indeed can I do it. However, if I thought it would be new to you, I believe I could make a draught of it. The harrows are all chained in pairs, and their teeth are made conſiderably hooked, with a ſharp thin angle before; an obtuſe one on each ſide; and rounded behind. They are ſomething in this ſhape. I obſerve an inſtrument which they call a foot-hoe, with which, I think, one man does as much work as two uſe to do with a common one in looſening earth before the ſpade; raiſing out ſtones, though conſiderably deep; raiſing up long roots, entire thiſtles, &c. without defacing the ground; and all with the greateſt eaſe, on account of its figure, the length of the lever the workman acts with.—(*Vide* end of letter.) I have not learned enough of the ſucceſſion of grains in cropping, to be able to ſay any thing ſatisfactory of it; but I can ſee there is ſomething in it quite new to me; of which, perhaps, I may be able to ſay a little afterwards.

'In the mean time, we fallow ſtoutly; marl the fallow ground, (becauſe there is great abundance of that manure in our fields), and reſerve always a conſiderable ſhare of what is to be fallowed for turnip and potatoe, and on that beſtow all the dung-manure. Whether any benefit is propoſed to the ground from turnip and potatoe, more than from common fallowing, I have not yet learned. But this ſeems evident to me, that the ground is equally well fallowed; the noxious weeds as well eradicated, (which I look upon as the principal article); and a conſiderable gain made from the produce, either by feeding cattle with the turnip, or by ſelling the potatoe, (which is done here for oats, meaſure for meaſure, the oats being both brought to the houſe, and the potatoes carried away by the buyer), or by feeding the horſes with them, (which his Lordſhip does, only mixing them, when boiled, with chaff, and giving them this inſtead of corn.) *N. B.* I am not certain whether this horſe-diſh might not be a pretty good ſuccedaneum to, and ſit as eaſy upon the human ſtomach, as potatoes boiled in milk. The method I ſee uſed in planting the potatoes, is this.—

'After having the potatoes cut into parts, according to the number of their eyes, and the field laid down in ridges about ſix feet broad (at leaſt I meaſured this breadth in a field planted the other day), they begin in the furrow, and, laying all along it a ſmall portion

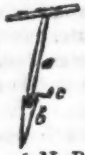
portion of rank dung, or any other kind, (though I would prefer the rankeſt, not indeed from practice, but theory), they drop in the potatoes at about eight or nine inches diſtant from one another. This being done,—with a plough drawn by three horſes yoked before each other, and having a tranſverſe bar of iron fixed in a particular way to the end of the beam, which reaches about a foot towards the land, and has nitches at different diſtances for regulating the draught, (for the draught is made upon this tranſverſe bar, that the horſes may eaſily walk out of the furrow, and avoid bruiſing the ſeed), they lay over a furrow about ſeven inches deep upon the potatoes; and, coming down on the oppoſite ſide, they lay off another to meet the former, and form a ſmall ridge. This is all that is yet done. When and how they begin to till the intermediate ſpaces, I muſt afterwards obſerve.

'The hedges here have been put into charming order this ſpring. The method of doing them, to the beſt of my knowledge, is this. With any old hook, all the matted graſs is picked away from the roots; then, having a little cleared that ſide of the ditch on which the hedge is placed, they begin as high or as low as they can find a ſure foundation, (which they are often obliged to make with the ſpade), and there lay a large ſod, (cut anywhere from the neighbouring ground), with its graſſy ſide outmoſt, and inclined towards the root of the hedge, in a degree not quite ſo great as the natural inclination of the ſide of the ditch, but a very little more erect. This being laid firm, they go on to heap ſod above ſod, in the very ſame manner, till they have reached conſiderably far up the trunks of the buſhes, (the rule perhaps may be, till the lateral branches begin to riſe out pretty thick.) Great care is taken to build in among the ſods any twigs that may come in the way, both to ſecure them from ſliding, and for a reaſon I ſhall mention immediately. The top ſod has its graſſy ſide laid undermoſt, that leſs graſs may ſpring up among the thorns; and nothing but ſome earth is heaped upon the back of the hedge as high as the ſtructure upon its breaſt reaches. The ſods are not preſſed very hard upon one another, for fear of hindering the progreſs of the thorn roots, and the ſudden union of the ſods with the earth. This breaſting of hedges, as it is called, looks admirably well, ſtrengthens the fence, and muſt be of ſurpriſing benefit to the growth of the thorns. You know that all branches of trees, if not very old, when buried in the ground, are converted into roots; and that all trees increaſe in proportion to their number of ſound roots buried in a convenient ſoil. When hedges, therefore, are treated in this way, not only all noxious weeds are rooted out, but a great many of the twigs, and a good part of the ſtem of the thorns, which were formerly uſeleſs, (nay helped to conſume a great deal

of

of the nouriſhment of the plant, and were therefore hurtful), are converted into roots, ſupply nouriſhment to the part above ground, and muſt contribute to its ſudden and vigorous growth.

'I ſee very good thorns propagated from the roots of them, when young, being cut into pieces of half an inch length, or leſs, and ſown in rows. I am told they thrive better, and are ſooner for uſe, than thoſe that are raiſed from the ſeed.



a, The handle, about two feet long. *b*, The head, made of iron, and pointed like the ſock of a plough, one foot long. *c*, For the workman to preſs his foot upon, of iron, about ſix inches long, and drove down between the head and the handle to fix it.

'*N. B.* You may obſerve ſomething not very diſtinctly marked, which ſeems to be extended over parts of the head and handle, and to join them together. This is a band directly like what joins the ſeams of the ſegments which compoſe the outer circle of a cart-wheel.

III. *On the Culture of Potatoes, &c. From Letter, dated 16th June,* 1754.

'The ſeason of marling is now come on; ſo that in a few weeks you may expect a full account of the whole process used in the application of that manure. I have likewiſe juſt now in my hands a MS. on the principles of agriculture, wrote by a very learned chemiſt, for the uſe of Lord Kames. It is done in a plain, ſenſible way, and, indeed, ſo far excels any thing of the kind I ever had occaſion to ſee, that I heartily wiſh I could procure you a reading of it. I ſhall, however, make notes out of it that ſhall ſerve as remembrancers, by whoſe aſſiſtance I may be able to explain to you the whole ſcheme, the firſt time I can have the pleaſure of ſeeing you.

'The potatoes had another furrow laid to on each ſide, a few days ago, by a light plough, drawn by two horſes. A field of wheat, which had the appearance of being too ſtrong and thick, had a good many ſheep put on it for 10 days about the end of April. Almoſt all the barley and wheat fields were rolled, even after the grain had ſprung a conſiderable way. It was done with a large wooden roller, drawn by two horſes across the ridges. By this it is propoſed to apply the earth to the roots of the plants, that they may be defended from too ſtrong effects of the ſun and wind; that the rain may neither penetrate too faſt, and be applied to the roots in too great quantity at a time, nor afterwards be ſuddenly exhaled from the lax earth; and that the roots, by the compreſſion of the ſurface, may be diſpoſed to ſink deep into

to the soil, where they may be less exposed to be nipped by the cold, or shrivelled by the sun. The benefits accruing to the roots of grain plants from this practice are numerous. Sap is furnished liberally, and in a better prepared state, to the stem above ground, which is thereby enabled to grow more luxuriously, and to produce a greater quantity of grain than it would otherwise have done. Besides, as a greater quantity of nourishment is prepared and sent upwards (if the operation is done at a proper time), so, a greater number of stems must come from one root, than would have been got had the operation been neglected. I ought to have mentioned, that rolling is only used in the loose or lax grounds.

'I am just now making some experiments, by Lord Kames's desire, in order to determine what may be the difference between eating pasture grounds very bare, and never eating them below a certain height; and likewise the difference between pasturing and taking crops of hay. These experiments are meant to ascertain which of these practices do greatest injury to the plants. Though I have no notion of their being decisive, you shall be acquainted with the result as soon as the experiments are completed.

'John Home, the poet, was lately at Kames; and since he went away, Andrew Wight at Ormiston, who is a great favourite in our family, spent several days with us.'

IV. *On Ploughing up Potatoes, &c. From Letter, dated 26th October*, 1754.

'Notwithstanding the promise in my last, not to trouble you any more with matters relative to husbandry, I must beg leave to complete my history of potatoes. This week, the stems of the plants being very much decayed, our people began to turn over the ground, in order to gather the roots. This was done by a plough drawn by two horses, which begins at the outside furrow of each ridge, and lays off the ground in the same order in which it was formerly laid on. They plough just as deep as they laid the dung at planting, for none of the roots are lower. After the plough, a number of children follow with baskets, who gather up the loose potatoes; and the furrow slice is then turned back, or digged up by several men with forks or grapes, who are followed by another set of gatherers. When the whole field is gone over in this way, and the potatoes carried home, a man with a cart goes and collects the scattered stems, which are laid in a heap, and covered with dung, to promote putrefaction. Then the field is harrowed, and the stems again gathered. A second ploughing is then given, and the remaining potatoes are picked up. Part of the field was sold beforehand at so much per drill, and was taken up by the buyers. Two or three drills

drills were, however, first taken up, and their produce ascertained. These drills generally yielded two bolls each, and the price was 9s. per drill, or 4s. 6d. per boll, besides the expense of taking them up. I remarked the following particulars when the potatoes were taken up. 1. That none of the potatoes were hurt by the plough. 2. That none of them lay so deep as the dung, most of them being near the surface. 3. That very few fibres were extended laterally, the roots being heaped up within six inches on each side, and not many even at that distance. From these observations, the potatoe ridges are in future to be confined to the breadth of three feet.

'I have been lately employed in trying different methods for propagating the blue grass vetch; but the success of these experiments cannot be known till next season. I am,' &c. &c.

An Abridgement of some Reflections upon the Principles of Agriculture, 1754. By Dr Alexander Ainslie.

THE cases that occur in agriculture are so various, that the most experienced often find themselves at a loss how to proceed, though the art has now subsisted for so long a time. Therefore, some general principles are necessary to be laid down, from which particular cases may be more easily explained. A little knowledge in natural philosophy, with careful observation, might soon establish such general principles among the practitioners of the art, as would, in a good measure, raise them above their present state of uncertainty.

The present inquiry is confined to, 1*mo*, The nature of the nourishment of plants; and, 2*do*, The proper method of applying it.

§ 1.—The nourishment of all plants is the same common juice, drawn from the earth, &c. and altered, by a certain transmuting power, into the proper aliment of that plant by which it is taken in. For, 1*st*, We see the same parcel of matter put on very different appearances, according to the powers operating upon it; as in chemistry, and in the nourishment of animal from vegetable, and of vegetable from mineral bodies. 2*do*, All vegetables, by putrefaction and chemical examination, afford the same principles, few in number, but in different proportion. 3*tio*, Soils chemically examined afford the same principles in different proportion; and animal or vegetable manure added to these soils, always assumes the same nitrous quality. 4*to*, It does not appear that plants have any nice elective power, but take in whatever is offered to their roots dissolved in water; so that, if there was different

ferent juices in the earth, they might as well assume the noxious as proper, as we sometimes find they do, when it is presented to them. *5to*, We actually find an assimilating power in plants, as in grafting; and the juice of the roots is often very different from what is found in the trunk, leaves, flowers, &c. *6to*, Five hundred different kinds of plants may grow in one spot of earth, or parcel of water. *7mo*, Plants growing near together rob one another of aliment. *8vo*, Though one species of grain will not grow long in one ground, that is, because the texture of the soil alters, and the due proportion of nourishment for that kind of grain is wanting.

§ 2.—The nourishment of vegetables, therefore, is the destroyed matter of vegetables themselves, whether it is found in the bodies of animals, in the air, in the waters, or in the earth covering the surface of the globe; in which last place the husbandman must collect it. Vegetables do not nourish other plants till putrefied, and even then not till they have undergone some further preparation. But they then are only altered into a substance fit, under proper management, for affording nitre; and nitre itself promotes vegetation. All fertile soils afford nitre, and the method used by the farmer to fertilize his ground, is alike in many things to that used for the making of nitre. For, to the production of nitre in any place, there is necessary, 1*st*, Putrid or putrefying matter, from vegetables or animals. 2*d*, An earthy matrix, or foundation, by which the nitrous matter is collected, and contained in its pores. 3*d*, Free access of air; both as it promotes the change, and as it is always more or less filled with the exhalations of putrid bodies. 4*th*, The application of quicklime, or some salt of the same nature; for these, and some other earths, as of the marl kind, are found greatly to augment the quantity of nitre in any compost. 5*th*, A certain degree of heat; for too small checks all putrefaction, and too great carries off the matter of nitre. No nitre is ever collected on a south wall. 6*th*, A certain degree of moisture; for much hinders due putrefaction, and likewise hinders the plentiful absorption of the nitrous matter into the earth, and makes it more easily carried off by sun and wind; it besides much retards the nitrous process, and makes the nitrous matter rather converted into a vitriolic body, as in tough clay. Hence the aliment of vegetables seems to be of the nitrous kind.

Soils.—In choosing of soils, that is best which is properest for the collection of nitre; and that is where there is a sufficient proportion of marl. (Here we do not consider vegetable earth, but the pure soil.) All earths may be reduced into two kinds, marl and clay. Marl is a friable earth, of a smooth, unctuous taste,

taste, of little viscidity or toughness when moist; readily dissolvable in water, but slow in subsiding, and slow in concreting firmly when dissolved; fermenting with and dissolving in vinegar; acquiring no additional hardness in the fire, but falling down to ashes, and with difficulty of itself reduced to glass. Clay is a firm earth; of an astringent taste; of considerable toughness when moist; not readily dissolving in water, but quick in subsiding and growing hard afterwards; not fermenting nor dissolving in cold vinegar; growing very hard in the fire, and reducible to glass. These two kinds are often found mixed. Marls are fittest for collecting nitre, and the aliment of plants; and soils are more or less good as they approach more or less to that earth. The unfitness of soils in general is from a want of earth, or from its being too much a clay, to which all the earths, when uncultivated, degenerate. This last depends on the presence of a vitriolic acid, and may be corrected by rendering the acid of a neutral nature by quicklime, or by converting it into the nitrous; either by applying putrid substances to the earth, or by putting it in a condition to attract them from the air. Moss is not to be considered as an earth, but a vegetable substance altered in its appearance. A heap of tanner's bark, in time, becomes real peat. In moss, there is not found any nitrous, but only a vitriolic salt, so mixed with oil that it cannot enter the roots of plants. It is corrected by quicklime, ashes, or marly earths, which mix with the oil, and make it dissolvable in water. The soil being prepared, it must be impregnated with animal or vegetable substances, by adding them directly as in manuring, by collecting them from the air in fallowing, or from the water, in water-fattening.

Manuring—Is an application of animal or vegetable substances to soils. These ought only to be applied when putrefied, or in such circumstances as may secure their immediate putrefaction. Animal substances putrefy in any situation, but vegetables only when in heaps; otherwise they insensibly dissipate. To promote putrefaction, the heap should be large; not too moist, nor too dry, nor too much exposed to the wind. Different substances yield different proportions of good manure, but this quality is the same in all; viz. a nitrous acid and a volatile salt involved in oil. The more thoroughly substances are putrefied, the more manure they afford. Substances belonging to animals of a hot nature, as birds, and that feed upon grain, or flesh, are most putrid; and the more solid these parts are, the more manure they afford, but putrefy more slowly. The same holds in vegetables; which, besides, if lax and watery, give more putrid matter by being a little dried before they are heaped up. Alkalescent plants, as turnip, radish, &c. give more than the acescent, as lettuce.

Fallowing

Fallowing—Is exposing the soil in a dry state to the air, that it may attract the animal and vegetable matter, which is always there in considerable quantity. Moisture from the air (as dews) contains a small portion of the above manure. This, in the night, is sucked in by the soil, and next day, the water flies off, and the manure is retained. This being every night repeated, the earth must soon be considerably impregnated. Hence dewy nights and dry days are best for fallow ground; and winter fallows, or in wet climates, never do service, for a reason given before in 6th article of the produce of nitre, and because there is then less manure in the air. The surface of the soil only attracts, and most briskly when often renewed; therefore it should be made as large as possible, and often turned over; by which means also, the attracted manure will be concealed from the sun, and its dissipation prevented. The drier and more alkaline the soil is, the sooner will it be impregnated.

Water-Fattening.—All water, particularly that from cities, on stagnating and putrefying, lets fall a good deal of putrid manure. Hence the fertility of soil recovered from water, and the advantage of allowing water to stagnate on grounds till it lets fall its slime. The water ought not to be allowed to evaporate gradually, but be drawn off at once, and when the heat is not so great as to exhale the nitrous matter, else you lose your manure. The vegetable and nitrous matter is dissipated; you have a vitriolic acid in their place; and your soil, by frequent gradual evaporation, is converted into a stiff clay, as happens from poaching, wet furrows, and flat grounds: Whereas, by alternate drenching and sudden drying, as above, earth may be resolved into any degree of firmness.

Lime.—Besides vegetable matter, lime is necessary to prepare it for being aliment to the plants, by absorbing, retaining, and separating the oily parts, and thus rendering them soluble in water. The quantity of lime to be applied, since it is a caustic when unmixed, should be proportioned to the quantity of earthy or vegetable matter in the soil, which can serve to alter its acrid nature. The more perfectly prepared the nourishment in any soil is, the better is the crop, and the sooner it is exhausted. Hence lime, thoroughly putrefied bodies, pigeons' dung, and soot, as preparing the aliment thoroughly, are said to exhaust the field in a few years. Ground new taken up, or trenched up, contains well prepared vegetable matter, yields fine crops, but soon fails. Hence there is danger in frequent uninterrupted croppings of such free soil. As to some limes binding the soils, that is a fable; for the effects of lime neither depend on its binding nor opening, but in attracting nitre, which old rubbish is found to do in a consider-

able

able degree. Some limes are, indeed, stronger than others, but not from their binding or opening more. It is from their being more or less perfect quicklime, or strong in the qualities that distinguish that substance. In order to try the different goodness of lime, I would propose to examine how much of any limestone is soluble in vinegar; as it is probably only so much that is calcinable into quicklime. 2*d*, To lixiviate quicklime with water, and precipitate this by different matters; or to precipitate metals by it. 3*d*, To examine the quantity of quicklime soluble in vinegar. 4*th*, To examine the increase of fixed alkalis after lixiviation with it. There is a volatile part in quicklime which flies off by allowing it to be gradually slaked by the air; by which method also, the falling is gradual, and often imperfect; and the lime sometimes concretes into large masses, and cannot be so well dispersed over the field; therefore, water-slaking at the kiln is best. The lime should be applied dry to the soil, likewise dry; and if it cannot be done immediately, it should be reserved free from moisture.—*N. B.* Old rubbish, or lime slaked in any way, is sufficiently good manure.—The effects of frost, though seemingly contrary to the doctrine of the production of nitre, is not so; for all frozen bodies are more apt to putrefy upon thawing than formerly; and frost, besides, alters the texture of the soil considerably.

§ 3. *Of the Application of Nourishment to the Roots of Plants.*—For the formation of roots, there is necessary, 1*st*, A fluid nourishment. 2*d*, Earth moistened with this; for all plants are naturally attached to the earth, and between it and their roots there is an attraction; whence they push down. Earth is likewise necessary for applying and retaining the moisture; for too much moisture hurts, either from the want of earth to attract and produce roots, or from the moisture distending and bursting the fibres of the roots, or from exposing them too much to the effects of frost. 3*d*, A soil pervious readily to moisture, and the roots of plants; for the plants usually cultivated push weakly, and demand a friable soil, in which their roots may be easily extended, and the number of the absorbing fibres (on which the strength of the plant depends) increased. This proper consistence is brought about, 1*st*, By a due mixture of earthy and stony matter; for all pure earths are apt to concrete into too hard masses after being moistened; but stony matter, or sand, may render them more free. Sand cannot be used to stiff clays till after other proper manuring, else they make it concrete more firmly (as we see in pottery), instead of opening it. And in other soils, very little is commonly wanting; which, besides, cannot be mixed with the soil but by prodigious labour. Therefore sand, in general,

general, is rarely useful; and where its use has been attended with any great success, it has been owing to other matters mixed with it, as shells and salt. 2*dly*, By a due application of moisture and sudden drying (see before p. 357, *Water-fattening*.) This, indeed, is seldom in the farmer's power; but by observing the effects of it, he may be directed in other affairs. Besides the bad effects of too much moisture mentioned before, it separates the real earth from the sand, and makes them subside in different beds; hence tills are formed. When grounds are ploughed wet, their moisture and slow evaporation make them concrete very firmly. 3*dly*, By the application of heat and cold. Heat promotes the penetration of moisture, and, with dryness, hastens evaporation; hence it procures the good effects of moisture and dryness. Cold, when freezing, renders the air in the water elastic, and powerfully divides the parts of the soil. Snow does good by confining the perspiration of the earth, and by the vegetable slimy matter it leaves behind it. If snow and frost go gradually off without rain, these good effects are obtained; but much rain drenches the soil, and exposes it to the effects of slow evaporation mentioned above. From the melting of snow, &c. we see there is a source of heat in the earth, independent of the sun; which comes either from the warm perspiration from the lower parts of the earth, or the putrefaction of vegetable substances in the soil itself. 4*thly*, Soils are rendered friable by the action of the roots of plants themselves. The sap, in certain circumstances, moves down towards the roots, pushes them out, and perspires into the earth. This is done with different force, and in different quantities, in different plants; whence the roots will have different effects in dividing the soil, according to their force, the number of their fibres, and the quantity of moisture perspired by them. Next, the number of roots, their force, and quantity perspired by them, may be conjectured from the bulk of the stem and branches, and the strength and luxuriance of the shoots; for I believe, what checks the growth of the one checks also that of the other. Then, while the shoots of the branches and leaves, and consequently the roots, are vigorous, no seed is perfected; whereas, when the seed is ripening, the branches and roots push little, gradually languish, and at last die. Hence moist soils and seasons give a late crop; dry ones an early one, and well filled grain. Hence, in the one state, the soil is divided and preserved moist, in the other it becomes stiff, hard, and dry. Hence, young luxuriant turnip meliorate the soil; but if they stand to seed, they make it hard. Hence potatoes, that only form roots, and no seed, in this climate, make the soil mellow. It has been long observed, that crops of culmiferous plants

leave the ſoil dry, hard, and ſtiff; ſuch are wheat, rye, barley, oats, ryegraſs, &c. On the contrary, crops of the leguminous, as peas, beans, clover, ſainfoin, &c. leave the ſoil moiſt, ſoft, and free. Culmiferous plants have their ſeed appearing all at once, and then the plants languiſh in the puſh of ſtem and roots. They remain in the ground to ripen their ſeed, and, till the whole plant is dried, ſhrunk and dead. Hence they are long in condition of neither puſhing nor perſpiring with their roots; hence they long do not divide the ſoil, but dry it, and give occaſion to its concreting firmly into hard lumps. Leguminous plants have their ſeeds appearing ſucceſſively; and while one part is forming ſeed, another is ſhooting vigorouſly. They are taken from the ground before the ſeed is hardened, or the growth of the plant entirely checked; whence they muſt to the laſt divide the ſoil, and keep it moiſt and friable. Beſides, 1*ſt*, The force of the roots ſeems to be greater in the leguminous than the other kind, for they grow better in a ſtiff ſoil, and cover the ground better, though ſown unequally. 2*dly*, The number of the roots is alſo greater; whence they more effectually kill and ſtarve other weeds. 3*dly*, They have more numerous, broad, and ſucculent leaves; whence we may preſume, they abſorb more plentifully, ſend more ſap to the root, and puſh and perſpire more into the earth. For we find, that ſome very ſucculent plants can furniſh moiſture to the roots for ſome days after they are taken from the ground. Hence the melioration of the ſoil from leguminous crops, which ſeem to have been given us by nature for an alternative to the other kind in cropping. Hence the advantage of taking crops of theſe alternately; which I have known done conſtantly on one ſpot, without fallowing, or any kind of manure, for thirty years. 4*thly*, The texture of ſoils is altered by the addition of certain matter; as, 1. Putrid or putrefying animal or vegetable ſubſtances. 2. Alkaline ſubſtances; as aſhes, quicklime, ſhells, marl. 3. Neutral ſalts; as nitre, ſea-ſalt, ſoot, &c.; which all open the ſoil, and make it more friable. And the 5th way of altering the ſoil is by the plough, ſpade, &c. the diligent uſe of which muſt always be joined to the former methods. But I will venture to ſay, that pulverization alone, without the aſſiſtance of the other manures, can never be of great uſe; ſince, however finely a clay is powdered, it is no ſooner wet again than it recovers all its former ſtiffneſs. The diviſion, indeed, expoſes it to the effects of heat and cold, moiſture and dryneſs, air, &c. and this is of ſome uſe.

FOR THE FARMER'S MAGAZINE.

Account of the Sheep Show at Linplum, 2d July 1808. *With some Remarks on the new Leicester or improved Breed of Sheep.*

THE soil and climate of East Lothian being admirably calculated for corn husbandry, farmers in that district have hitherto devoted their chief attention to the plough, and considered the breeding and feeding of live stock as objects of secondary importance. Perhaps, in giving such a decided preference to the culture of corn, a great error was committed by the East Lothian farmers, it being now pretty correctly ascertained, that alternate husbandry may be more successfully exercised. A regular admixture of leguminous and culmiferous crops, seems, in fact, to be the *sine qua non* of good husbandry. In that way the ground may be constantly preserved from waste or deterioration; a great stock of cattle and sheep may be reared and fed, for supplying the public markets, and enriching the occupier; whilst, after all, as great, if not a greater, quantity of corn may be raised on the premises, as was practicable in former times when a different system was followed. These are matters of much consequence, both to the public and the occupiers of land, and deserve to be noticed in a work of this kind, as intimately connected with the improvement of the country.

Notwithstanding that a revolution of considerable magnitude has taken place in the rural economics of East Lothian, it is certain that the antient system is not yet totally given up, but maintains its ground with many people, who, in other respects, may be considered as excellent cultivators. The increased culture of green crops has, however, of late, caused more attention to be paid to the breeding and feeding of live stock. In these particulars, the disposition of East Lothian farmers is now more in unison with that of their brethren in Berwickshire and Northumberland, than formerly. Of the truth of this, we have a pregnant proof in the business which occupies our notice. Had a ram show taken place in East Lothian a dozen of years ago, it is doubtful whether half a score of farmers would have thought it worth while to give attendance. Not so at this time; for the numbers who crowded from all quarters, exemplified the interest felt by the majority of farmers in the improvement of live stock. Mr John Home, in his history of the rebellion, when describing the march of Sir John Cope's army from Dunbar towards Edinburgh, says, 'the people of the country flocked from all quarters to see an army going to fight a battle in East Lothian.' This description, in part, is not inapplicable to the Linplum sheep show. Though shows are frequent in Northumberland and Berwickshire,

nothing of the kind had hitherto taken place in East Lothian. Rams of the improved breed have several times been exhibited at Gifford fair, by the Messrs Brodies and others; but no meeting had hitherto been called for the express purpose of showing these animals.

Mr Bogue entered to the farm of Linplum about eight years ago, and immediately set to work in improving it in the most substantial and judicious manner. In his case, the advantage of possessing a large capital was strikingly manfest; for he summer-fallowed extensively, purchased dung at Haddington and other places, drove large quantities of lime-shells from the neighbouring draw-kilns, which was administered most liberally, and caused every field to be sown with grass seeds as fast as it was dressed. The farm contains 580 Scotch acres; therefore of a size well adapted for stock husbandry. The whole of it was enclosed; and, of course, an improved system was practicable at the outset. This improved system was followed out by Mr Bogue with spirit and judgment. He purchased ewes, and hired rams from Mr Culley and others; but chiefly from Mr Sitwell of Barmoor-Castle, a gentleman well known as an amateur of good live stock. In a word, the conduct of Mr Bogue furnished incontrovertible evidence that he was fast advancing upon the heels of the first rate breeders.

The New Leicesters or improved breed of sheep, are well known through the greatest part of Britain. With regard to this breed, the general opinion is, that it may be fattened in a shorter time, and at less cost of food, than any other of the numerous varieties which prevail in the island. The New Leicesters were introduced into East Lothian in 1776, by Mr William Brodie, then tenant of Upper Keith, who now possesses the extensive and valuable farm of Amisfield-Mains, near Haddington. Afterwards, many other farmers obtained this breed, or varieties of it; for, notwithstanding they are all descended from the parent stock of Mr Bakewell, yet it must be understood that there are several varieties, or, more properly speaking, different families, of the Leicester sheep, concerning whose qualities agriculturists are not at one. As already said, they are all descended from the stock of Mr Bakewell, though possessing the original properties of that breed in different degrees, according to propinquity, and the measure of attention bestowed in selecting the fathers and mothers of the several families. Mr Bogue's flock has been chiefly reared from rams and ewes purchased from Mr Sitwell. This variety is rather of a larger size than those bred by Mr Culley and other people; and to decide upon the merits of Mr Bogue's rams, when compared with some others descended from ewes purchased

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at Mr Culley's ſale in 1806, occaſioned in ſome meaſure the meeting now to be deſcribed.

The company met at Linplum, at one o'clock, Saturday, 2d July, and were favoured with a remarkable fine day for going through the buſineſs before them. In the firſt place, Mr Bogue ſhowed 13 very fine rams, chiefly ſhearlings, each having a label hanging from his neck, denoting the particular number of the animal, from which reference was made to the quantity of wool clipped. The rams were in high condition, uncommonly well managed, and ſhown with ſuch judgment as to afford the greateſt ſatisfaction to the numerous company aſſembled at the inſpection. They were ſhown, one at a time, in a long range fitted up in the farm-yard; the company ſtanding on each ſide of the range, and handling them as they paſſed. We underſtand ſome were let at the time; and have no doubt but that the whole will be bargained for ere the raming ſeaſon commences.

After the exhibition, a ſweepſtakes, of five guineas each, by Mr Bogue, Mr Brodie, Scoughall, and Mr Ker, Whitekirk, who ſhould ſhow the beſt rams, was determined in favour of Mr Brodie. Mr Ker did not produce his ram; therefore the conteſt lay betwixt the other two gentlemen. The judges, Mr Mathew Culley, Mr Scott, and Mr William Brodie, were unanimous in their deciſion, thinking Mr Brodie's rams fatteſt, and conſtitutionally diſpoſed to fatten faſter than the other. Mr James Thomſon at Bogend, in Berwickſhire, was originally fixed upon as one of the judges, but the indiſpoſition of a near relation prevented his attendance; a circumſtance which occaſioned much regret.

Here we would remark, that in all competitions of this nature, the terms or principles on which judges are to determine ought to be clearly and diſtinctly expreſſed in their appointment, ſo as error may be avoided, and impartial juſtice adminiſtered to the parties. It is well known, that breeding amateurs are divided into different ſects, each holding oppoſite opinions, and maintaining them with almoſt equal pertinacity as diſplayed, on other occaſions, by Brunonian and Cullenian practitioners in defence of their reſpective ſyſtems. In judging upon the aptitude of ſheep to fatten, breeders may be miſled by preconceived abſtract notions with reſpect to the qualifications or properties which confer that aptitude; or they may be influenced, when pronouncing judgment, by ſize of head, ſhape of neck, colour of legs, and the like; which circumſtances, though perhaps neceſſarily connected with a beautiful animal, are not abſolutely called for when determining upon its diſpoſition to fatten more cleverly, and at leſs expenſe than its neighbours. We hazard theſe general remarks, without meaning, in the ſlighteſt manner, to impugn the ſentence of the judges, who certainly acted with the utmoſt impartiality.

A bull, and ſeveral Weſt Highland cows, with a valuable parcel of feeding cattle, purchaſed by Mr Bogue from Dunrobin in Sutherlandſhire, were ſhown in an adjoining yard or courtine. As a judge of good ſtock, Mr Bogue has long been conſpicuous. His attempts, in conjunction with thoſe of Mr Sitwell, to improve the Weſt Highland breed of cattle, by ſelecting the beſt bulls and cows, and rearing their progeny on good paſtures, merit every degree of ſucceſs. The Weſt Highland breed is well known to be one of the beſt in the iſland as to quality; and if it is ſo, when, in ſome meaſure ſtunted and ſtarved in early age, there is every reaſon to believe that an improvement of the greateſt conſequence may be obtained by feeding this breed from the outſet. The experiment, at all events, deſerves praiſe; and we eagerly hope it will be accompanied with more ſolid advantages.

After the ſhow, ONE HUNDRED AND EIGHT agriculturiſts were ſumptuouſly entertained by Mr Bogue in the large thraſhing-mill barn, which was moſt commodiouſly fitted up for their reception. Here we are at a loſs to ſay, whether the elegance of the entertainment, or the regularity and good order with which it was conducted, were moſt entitled to praiſe, or moſt gratifying to the gueſts. It is enough to ſtate, that the whole company were highly pleaſed with the urbanity and good manners of the worthy entertainer, who, on this occaſion, was well ſupported by ſeveral gentlemen who took an active hand in diſcharging the different offices entruſted to them.

Among the company who attended the ſhow, we obſerved Lord Dalhouſie, Lord Cathcart, Lord Maitland, the Honourable Mr Cathcart, Sir James Baird, Bart., Mr Hay of Spott, Mr Dewar of Vogrie, Mr Stewart of Alderſtone, and many other diſtinguiſhed amateurs of rural art. A great number of loyal and ſuitable toaſts were given in the courſe of the afternoon; but none pleaſed us ſo much as Lord Dalhouſie's. His Lordſhip, after a neat and appropriate ſpeech, propoſed the health of Mr Bogue, adding, 'May his uſeful and laudable example be extenſively imitated by his brethren in Eaſt Lothian.'

We underſtand that the ſhow will next year be held at Scoughall, when another ſweepſtakes betwixt Mr Bogue and Mr Brodie will be determined. We announce this with great ſatisfaction, being fully convinced that competitions of this nature muſt tend greatly to the improvement of live ſtock, and, by conſequence, to the advantage of the public intereſt. We would wiſh to ſee it followed out in other branches of huſbandry, as the emulation which naturally accompanies ſuch friendly conteſts, is well calculated to excite a ſpirit of improvement in every department of rural art. Were the beſt fallow the object of competition, then we might

might well ſuppoſe that every attention would be beſtowed upon its culture; or, were the beſt wheats to be the object, we may reſt aſſured that the preparatory proceſſes in every ſtage, from ploughing the ground to ſowing the ſeed, would be executed with the utmoſt ſedulity and carefulneſs. We throw out theſe hints, truſting they may afterwards be acted upon, and prove of ſome uſe to the agricultural intereſt of the country.

Before we are done, it cannot be improper to notice, that Mr Bogue, who has ſet ſuch a good beginning to the competitions we are recommending, is nephew to Mr William Brodie at Amisfield-Mains, formerly at Upper Beith, who, as already ſaid, firſt introduced the improved breed of Leiceſter ſheep into Eaſt Lothian. When it is added, that Mr Bogue poſſeſſes the like genius and talents with regard to the management of live-ſtock as belong to his worthy friend, we are almoſt ſure that there is ſcarcely one perſon in the county of Eaſt Lothian who holds an opinion on his merits different from the one that we have now pronounced. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Covering Fruit Trees, &c.

SIR,

I SENT you a ſhort eſſay laſt year, on the ſubject of making wine from Scotch fruit. I have ſince made a good quantity, and having had a year to ripen, it proves a pleaſant and improving beverage. I have devoted half an acre to the purpoſe of raiſing black currants, and hope in time to excite the jealouſy of the Exciſe, at ſo charming a liquor eſcaping the gauge-ſtaff.

I add a receipt of ſome importance, becauſe it is a certain corrective of the worſt property of our climate, if a defect can be called a property,—I mean our cold, bleak ſpring ſeaſons. This defect alone renders the hotteſt enſuing ſummer and mildeſt autumn *fruitleſs*,—as it attacks our fruit trees at the delicate moment of their coming into bloſſom, when a ſingle froſty night often blaſts the whole hopes of the year.

Moſt of the walled gardens in Scotland have climate enough to ripen very fine fruits, peaches, apricots, cherries of all ſorts, green-gages, and moſt of the other plums; but the warmeſt of our gardens are not exempted from the havoc of ſpring froſty blights; to remedy which, a happy antidote has lately been diſcovered. The wall trees are to be covered in the ſpring with a woollen net. Its meſhes about the wideneſs of a herring net. The worſted is to be ſpun of the coarſeſt materials, and the nets to be made of *two-ply yarn*. The only troubleſome operation, is that

of cutting one of the plies of every meſh after the net is woven. This creates the greater obſtruction to the froſty particles reaching the tender bloſſoms.

A neighbour of mine made laſt ſpring an experiment which leaves no doubt of the value of the receipt. On the ſame wall, in the ſame ſoil and expoſure, he covered one of three peach trees with a net of this kind. The two uncovered have hardly any fruit; the third, that was netted, is loaded with the fineſt fruit, as if it had been in a peach-houſe, or on a wall covered with glaſs. I need not obſerve, that the ſimplicity and cheapneſs of this preſcription adds not a little to its value. I am told it begins to be uſed pretty generally; but, as I never heard of it till lately, perhaps it may be equally unknown to many of your readers. I hope ſome of them will enable you to confirm the ſolitary experiment I have reported, and that your future Numbers may eſtabliſh the value of this diſcovery. I am, Sir, yours, &c. DOMESTICUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

IF your youth has been ſpent amidſt rural ſcenery, and if at a ſubſequent period, when abroad, you have made an excurſion on foot in a hot climate, and felt an inclination to recline in the ſhade, you have, no doubt, experienced the uneaſineſs which ariſes from the apprehenſion of ſavage beaſts and noxious reptiles. At ſuch times, you may perhaps have viſited Great Britain, in imagination, and wandered in wild woods, or loiled upon moſſy banks, and enjoyed the proſpect of rugged rocks and romantic ruins. Theſe ſituations and ſenſations, I have often experienced; and the agreeable part of them I lately attempted to realize. Every thing ſeemed altered, and all for the better. The country had been encloſed, waſtes cultivated, and hills planted; roads had been raiſed, bridges lowered, canals excavated, and machines almoſt animated. The middling ranks of life ſeemed to poſſeſs more information and more induſtry. The lower claſſes appeared more cheerful, better lodged, better fed and better clad; and the fair ſex, whether from the practice of innoculation, or the general uſe of hats and parafols, appeared ſtill more beautiful than at the time of my departure. I rejoiced at the progreſs which had been made, and my heart expanded at the proſpect of ſtill further improvement. In my excurſions, however, two things annoyed me exceedingly,—the want of finger poſts to direct me aright, and the conſtant denunciations in the event of going wrong; and theſe laſt, often the firſt indication that I had already got half a mile beyond the ſpot where the intimation ought to have been given. Indeed, the numberleſs threatening advertiſements which at every corner, in the vicinity

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of what are called *gentlemens'* houſes, exhibit ſteel-traps, ſpring guns, rigorous law, and certain proſecution, are more alarming to a curious traveller than all the ſnakes, centipedes, tigers and tarantulas of the torrid zone. When a great deal of taſte and judgment has been diſplayed, and a great deal of money expended in building, fertilizing and adorning, it were natural to ſuppoſe that every means would be uſed to facilitate approach, and by the proper uſe of ha ha's, exhibit to the view of the paſſing ſpectator, the expenſe which had been incurred, and the improvement which had been made. I do therefore ſuppoſe, that the greater part of thoſe terrifying tickets are ſtuck up without the immediate ſanction, or at leaſt the due conſideration of the proprietors; for I cannot believe that the following and numerous other extracts which might readily be made, are the compoſition of any perſon who is capable of either deſigning or executing any thing that would be either curious or uſeful.

'If any perſon is ſeen upon the dikes or trees, they will be ſhot. 'Informers will be rewarded.' This is ſuch an outrage againſt law, juſtice, mercy, civility, grammar, and good ſenſe, that one might be induced to believe, that the reward is offered by ſome magiſtrate ſo as information may be received when murder is committed. 'No perſon allowed to paſs through theſe woods, ex-'cept in the caſe of deſerters, or perſons flying from juſtice' This again carries licentious indulgence to ſuch an extreme, that I ſhould think it incumbent upon all civil and military officers to bring the proprietor to a proper ſenſe of the extravagance of his intimation.

Surely ſuch as commit depredations would be liable to apprehenſion and puniſhment, without all this expenditure of poſts, plank and paint; and I much doubt, if ſuch illiberal excluſion has not even ſome tendency to ſtir up miſchief in the minds of ſome who would otherwiſe paſs peaceably along. For my own part, I never ſee any of thoſe *terrorems*, but they excite a kind of mental execration, and inſpire me with a ſtrong deſire to burn the board.

The ſuperintendance of ſuch matters is certainly in your department; and I think you may be able to convince many that they would derive conſiderable ſatisfaction, and all, that they would run very little riſk, in expoſing their parks, and even their palaces, to the eyes of a STRANGER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on ſome Prejudices againſt Landholders, by Dr Dewar.

SIR, *Edinburgh*, 1808.

ONE of the happieſt effects of the diffuſion of literature in the preſent age, is, that many unfounded jealouſies which formerly prevailed,

prevailed, are deſtroyed by the circulation of more accurate views of the mutual relations which the members of ſociety bear to one another. In no department is this change more agreeably conſpicuous, than in the relations of landlord and tenant. During the tranſition of ſociety from the feudal to the commercial ſyſtem, it was to be expected that the remains of old habits ſhould influence both parties; that the landholder ſhould retain ſome attachment to the feudal power with which his anceſtors had been veſted; and that the tenant, not yet raiſed to independence, ſhould claim from his landlord a degree of protection beyond that which flows from the ſimple obligations of honeſty and good neighbourhood. Accordingly, for a certain interval, farmers complained, without any foundation, of harſh uſage on the part of their landlords; and theſe, on the other hand, indulged in contemptuous reproaches againſt their tenants, for the unreaſonableneſs of their expectations. Such miſtakes are now happily diappearing; and the habits of men in each department become accommodated to an improved ſtate of ſociety. The prejudices which ſtill adhere to their minds are trifling, compared to thoſe which are forgotten. Every perſon, however, who wiſhes well to ſociety, ſhould exert himſelf for the extinction of thoſe which remain. The efforts which are made in your uſeful Miſcellany, as well as in ſeveral other modern publications, to impreſs the landed intereſt with a due ſenſe of honour and liberality in their dealings with the farmer, are highly deſerving of praiſe. In order, however, that theſe efforts ſhould prove effectual, it is of great importance to repreſs ſuch complaints as are ill-founded, and to draw a clear line of diſtinction betwixt the manly remonſtrances of juſtice, and the croakings of diſcontent. If it can be ſhown that theſe latter ever aſſume the maſk of the former, and if it is found that, for want of accurate views on the ſubject, groundleſs complaints are in any inſtance countenanced by men who, in other reſpects, exhibit much liberality of ſentiment, it will certainly be of uſe to endeavour to convey ſuch views as are more correct in themſelves, and tend to bring all parties nearer to a mutual agreement.

In ſome inſtances in which landholders and farmers are ſufficiently diſpoſed to harmonize in their leading tranſactions, a ſort of neutral men, in the literary world, endeavour to ſet them at variance, by eſpouſing what they conſider as the intereſt of the farmer. My preſent deſign is to take notice of two inſtances, in which miſtaken doctrines of this tendency have made their appearance.

I ſhall begin with the complaint which is made againſt the injuſtice of landholders, in exacting ſo high intereſt as they ſometimes

times do, for the money which they advance in improvements. In cases in which the farmer wishes to have certain improvements executed at the expense of the landlord, without which he finds that the produce of his farm must continue far below the point to which it can in this manner be raised, we are asked, what right the landlord has to take advantage of any such necessity, by demanding a greater addition to his rent than the legal interest of his money? On what principle can he claim 10 *per cent.*, as is frequently done? A few remarks will make the principle perfectly clear to every person capable of attending to the subject. As long as we adhere to the laws of property, which are recognized in every well-ordered state, a man possessing two kinds of property, such as land and money, is perfectly justified in combining the advantages of these in such a manner as to produce the greatest possible revenue to himself, provided he do not encroach on the income and rights of his neighbour. A landholder is proprietor, not merely of his land in its present state, but of his land as vested with the quality of improveableness; and this quality he is justified in turning to his own account. No person has ever denied that, when a farm is in the proprietor's hands, he has a right to expend money on it till he raises its value as high as he can, and then to let it at any rent which a prudent farmer thinks proper to give. The difference betwixt this case, and that in which money is advanced in the course of the lease, is not essential. The advance of rent should be proportioned as nearly as possible, not to the sum expended, but to the resulting advantage of the improvement made. If the tenant, at the beginning of his lease, gives no more than an adequate rent for a farm in its present state, and if it is foreseen that any particular sum laid out upon it will bring an additional produce of 30 *per cent.*, the landlord has as good a right to this 30 as in other cases he might have to 5. Whatever be the conditions of advance in rent, the farmer is safe, if he has it in his power to refuse all improvements which will not reimburse him for the additional rent. It generally happens that, in bargains of this sort, the farmer is a considerable gainer by receiving an addition to his produce exceeding the amount of any per centage that he pays. All that he receives above this amount is clear profit; and, if the improvements had been made previous to the lease, would, in the course of things, have formed part of the revenue of the landlord. A square field, with a public road along two of its sides, may not be worth more than 20*l.* *per annum* in an unenclosed state, but may be worth 120*l.* when well enclosed; and yet the expense of enclosing may not exceed 200*l.* The farmer who is in possession is treated with sufficient liberality, if the proprietor offers to enclose it, on condition of receiving 50*l.* of additional rent. This

may

may be called an extreme case, and perhaps a one purely hypothetical; but it is certain that the advantages of enclosing bear various proportions to the sums expended. In rich fields, the expense is small, and the advantages very great. Bleak hills, on the contrary, may be barely able to afford the expense of enclosing. The advantages derived from it may hardly amount to 5 *per cent.* of the expense. If they fall short of this return, the person who lays out the money sacrifices his own interest to that of the country. Such sacrifices ought certainly to be voluntary, when they are made at all; and it would be highly unjust for a landlord to exact them from his tenant. Even an addition of 5 *per cent.*, in this case, would be extortion. This illustration may show, that it is idle to fix any limits to the proportional rise of rent which ought to be exacted for enclosing. The landlord acts with sufficient liberality, when he takes upon himself all the chances of failure, and insists on such terms only as must turn out advantageous to his tenant. If all the conditions are fixed in a lease, whatever room may be left to find fault with imprudent arrangements, it is absurd to complain of unfairness. If no bargain has been originally made on the subject, a wise landlord would not neglect improving his land, with the prospect of a greater rise of rent at the conclusion of the lease, though he should receive, in the mean time, only 5 *per cent.* for his money. If he is unwilling to do this, the tenant may act most prudently, by offering a higher proportional rise, to induce him to put his farm in a better condition. Perhaps the most liberal plan would be, for the two parties to make an equal division of the advantages expected from such improvements. But remonstrances about unfairness of conduct, on these occasions, are generally idle.

Hoping that this point is sufficiently established, I shall make some observations on another practice, which is made the subject of complaint, equally unfounded,—that of advertising for private offers in letting land. No system is so perfect as to preclude the possibility of objection. This mode of letting land has been considered as an advantage taken of the anxiety which a farmer feels to avoid disappointment, and, consequently, a temptation laid in his way to induce him to offer a higher rent than he is able to pay. It ought to be considered, however, that the most skilful farmer is generally able to pay the highest rent, and is also most deserving of encouragement. It may occasionally happen, that a man of inferior qualifications will give a higher offer, from a spirit of inconsiderate adventure; but a proprietor, industrious in his inquiries, and possessed of common sagacity in judging of character, will then prefer the man who is most likely to succeed. Because

Because a landlord may in some respects be compared to a merchant, it is thought equally reasonable to expect that he should fix a rent on his land, as that the merchant should ask a definite price for his goods. The business of the merchant, however, is, in its own nature, very short and easy. The state of the general demand is known by the prices which goods of each description bring; and there is but little trouble required in distinguishing the gradations of quality in the articles which he offers for sale. But the circumstances which regulate the value of land are local, minute, and hardly capable of being appretiated by any person, except the practical farmer. It is therefore most profitable for all parties, and for the country at large, to bring this class of men into free competition. The great demand for farms is a consequence of the general success of practical farmers; and a free competition must generally open to industry and enterprize the readiest prospects of success. In the hands of a prudent landlord, the freedom of the competition is but little impaired by the privacy of the offers; while the disadvantage of obliging himself to accept of higher offers from improper persons is more fully avoided, than by any form of public auction. Nothing can be more futile than to say, that the power of selection which the landlord reserves to himself is then too great. Every man has a fair claim to all the power which his property implies; and it is unreasonable to find any fault with him, except in the ultimate use which he makes of this power in individual instances. A merchant, in selling goods, may always make a choice among his customers; but, if he is certain of recovering his money, he has no motive for preferring one customer to another; and therefore he deals with the first that offers; because, when the money is paid, their mutual intercourse in that instance is at an end. But a landholder, who is to be connected, by a course of mutual transactions, with a tenant for nineteen years, would act a very foolish part, if he did not use the greatest circumspection in every circumstance of his original agreement.

Some of your readers, particularly among landed gentlemen, will be apt to regard the preceding observations as truisms, hardly deserving so formal an illustration; but, as long as prejudices exist among any description of men whatever, such explanations as may serve to correct them, cannot be justly considered as superfluous. I am, Sir, your obedient and humble servant,

HENRY DEWAR.

NOTE.

IT is a doubtful point, whether the statute against usury is not infringed when more than five *per cent.* of interest is taken upon money expended in improvements; especially if the tenant is bound to leave these improvements, say houses and fences, in good condition at the expiry of the lease.

Abstract

Abſtract of the Conſtitutional Rules and Regulations of the Farming Society at Salton, &c.

Conſtitutional Rules.

1*ſt*, THAT the meeting form themſelves into a CLUB, to be called THE SALTON FARMING SOCIETY.

2*d*, That the principal object of the Club is to promote the intereſts of agriculture, by their countenance, communications, and the diſtribution of premiums to thoſe who are engaged in rural affairs.

3*d*, That for the ſake of ſociety and good neighbourhood, the members ſhall dine together at each meeting.

4*th*, That the members ſhall not conſiſt of agriculturiſts merely, but of thoſe alſo of other profeſſions, who are lovers of agriculture.

5*th*, That when the intended number of members is completed, their meetings ſhall be quarterly.

Regulations for accompliſhing the Objects of the Society.

Premiums.

1*ſt*, To encourage order and cleanlineſs in the cottage and cot-yard.
Thirty Shillings, to the competitor who is moſt approved.
A *Guinea* to the ſecond.
Half-a-Guinea to the third.

2*d*, For the beſt eſſay on the moſt ſucceſsful mode of deſtroying the moſt hurtful weeds,—*a Silver Medal.*

3*d*, To the tenant who ſhall be found to have the cleaneſt farm,—*a Silver Medal.*

Communications and Diſcuſſions.

1*ſt*, At every meeting of the Society, the members ſhall be requeſted to communicate any particular practice in huſbandry that by experience they have found to be moſt ſucceſsful.

2*d*, That at the cloſe of every meeting, the preſes ſhall announce, for the diſcuſſion of next meeting, any particular ſubject connected with rural affairs.

Moving Committees.

That when the Society becomes more numerous, a Council ſhall be named, and at each meeting a Preſes and a Croupier ſhall be appointed.

Committee of Inſpection.

That a committe of report and inſpection be appointed, to prepare buſineſs for the quarterly meetings, and to report upon the ſtate of agriculture within their circle.

Additional Regulations, approved by the Quarterly Meeting held in September 1807.

1*ſt*, The Society are to meet quarterly, and in the months of *January*, *April*, *July*, and *October*.

2*d*,

2*d*, On the firſt meeting of every year, each member ſhall pay into the treaſurer's hands, *Ten Shillings*, which he is to appropriate to the payment of dinners during the year.

3*d*, Every motion which is duly ſeconded and debated, ſhall be decided by a majority of votes; and if, on collecting the votes, they ſhall be found to be equal on each ſide of the queſtion, the Preſident, independently of his vote as a member, ſhall have the caſting vote.

4*th*, Every motion not ſeconded ſhall fall to the ground.

5*th*, Any gentleman, deſirous of becoming a member, muſt be propoſed a candidate by a member preſent: If the motion be ſeconded, the ſecretary ſhall minute the ſame, inſerting, "The candidate to be ballotted for next regular meeting."

6*th*, Not fewer than nine members ſhall be deemed ſufficient to ballot for a new member; and of theſe, one third ſhall have the power to reject.

7*th*, When the event of the ballot is favourable, the perſon who propoſed the new member ſhall depoſit in the treaſurer's hands *two ſhillings and ſixpence* for each remaining dinner during the year.

8*th*, Any member of the Society may bring with him a friend, as a viſiting member; it being underſtood that the member pays for his friend.

9*th*, Dinner for twenty members, at every meeting, ſhall be ordered and paid for; and if more than twenty dine, the ſurplus number ſhall be paid for, at the rate already ſtated.

10*th*, Dinner ſhall be on the table preciſely at four o'clock, and the bill ſhall be called at ſeven.

11*th*, The ſecretary ſhall inſert theſe regulations into the minute-book, and ſhall continue to minute the proceedings of every meeting, together with a liſt of the members who were preſent.

12*th*, The minutes of the former meeting ſhall continue to be read previouſly to commencing buſineſs.

NOTE.

WISHING to give all publicity to the excellent rules and regulations of the Salton Farming Society, we have inſerted them from a copy obligingly tranſmitted to us. It is not our intention to offer remarks, but we are in duty bound to congratulate the Society upon the marked attention ſhown to the dinner buſineſs;—a buſineſs confeſſedly of great importance, therefore noticed in no fewer than in five of the additional regulations. The Society, by attending ſo minutely to this important branch of their proceedings, are certainly entitled to much praiſe. Other ſocieties debate firſt, and dine afterwards; which is as prepoſterous as going the yoking, and corning the horſe at the end of it. The Salton Society

act

act more wiſely. Judging that to debate with an empty ſtomach is a very fooliſh meaſure, they prudently begin where other ſocieties finiſh. Here the Society are in the right; for all agriculturiſts, however much they may differ about rotations of crops, and the like, are at one with regard to the utility of eating and drinking. The Society have therefore, with much judgment, given theſe matters a place in their conſtitutional code; conſidering the dining-table, perhaps, as a rallying poſt around which a full meeting may conſtantly be expected; and its dainties as highly calculated to invigorate their minds, when engaged in the great work of promoting agricultural improvement. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Potatoes.

SIR,

I obſerve in the late communications to the Board of Agriculture, that the Reverend Edmund Cartwright ſays, in a paper on the culture of potatoes, that every portion of a potatoe, whether it has an eye or not, will grow into a plant. This is a miſtake.

I have found, on trial, that the old received doctrine holds, that no portion of a potatoe that has not an eye will grow into a plant.

Amidſt the many ſpeculations on the cauſe of the curl, I beg leave to remark, that I have taken notice of late, that potatoes planted either too near the ſurface, or too deep in the ground, ſend up curled plants; and any thing in general that weakens the growth of the plant, as a very ſmall cutting, or when the cutting is deſtroyed by inſects in the ground, has the ſame effect.

That there are other cauſes of the curl yet unexplained, there is no reaſon to doubt; as we find univerſally, that potatoes grow curled if the ſeed is not changed, at leaſt in the low parts of the country; while I have obſerved, that if the ſeed is brought from a late climate, the potatoe plants produced from it are never curled.

A GARDENER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Query concerning Soap-Aſhes.

SIR,

PRAY, can any of your correſpondents give information reſpecting the quality of ſoapmakers' waſte aſhes for manure? In ſome places the farmers give a very high price for them, and are anxious to get them. I am informed there are immenſe quantities to be had in London, Briſtol, and Liverpool, for a very low price.

If you can invite diſcuſſion on this manure, you would add very much to the many important ſervices ariſing from the great circulation of your Journal. A.

BRANCH

BRANCH II.

Agricultural Intelligence.

Since the commencement of 1808, the weather has run into extremes; and existing circumstances warrant a presumption, that the year will conclude in the same uncommon way hitherto manifested in its progress. The first four months of the year were singularly stormy and cold, displaying all the horrors of winter even till the last day of April. The month of May was ushered in with the most promising appearances; and vegetation, from that time, proceeded with a rapidity rarely witnessed in this country. The last two weeks of June and the first three weeks of July, furnished warmer weather than remembered by the oldest man living; and this unprecedented warmness was followed by dreadful thunder storms in every quarter of the island, accompanied with heavy rains, more resembling those of the torrid zone, than what are usually experienced in the temperate climate of Great Britain. The loss and damage sustained by such heavy rains, can only be correctly ascertained at an after period. It is enough, in this place, to say, that, in consequence of them, the wheats have been mildewed considerably; a great part of the hay crop absolutely rotted; whilst field labour hath been thrown out of shape, and placed in a condition not to be remedied at this advanced period of the season.

Under these circumstances, it need hardly be stated, that the summer-fallow land is not much improved by the labour bestowed upon it during the dry weather. In fact, the clay soils of many districts were so saturated with moisture, that there is little probability any of the after processes will be accomplished in a satisfactory manner. The turnip fields are also, in numerous instances, very imperfectly cleaned; it being hardly possible, from the 24th July to the 10th August, to use either the horse or hand-hoe with the slightest advantage. Such fields as were cleaned before the rainy weather commenced, are doing well; but the breadth of land then finished was not great; and any thing done during the above period was chiefly by the hand. Upon wet soils, the young plants assumed a yellow aspect; after which, it rarely happens that the crop is worth the expense of cultivation.

The corn markets have been more stationary during the quarter than might have been expected. Wheat, in particular, has not varied greatly in price, the fall one week being nearly made up by a rise in the succeeding one. Barley and oats have been scarce articles through the summer; but the appearance of those grains upon the ground being generally good, has, of late, caused a considerable depression of their market value. The same remark may be applied

to peas and beans. As to wheat, a very different opinion must be pronounced. The crop, at the best, was not above an average; in many districts, much below it. The mildew, which in a greater or lesser degree has seized this grain, must, at all events, contribute to keep up the present market rates. Indeed wheat, for many months past, has in reality been the cheapest grain; and a fall of one third upon the other varieties of grain, will only serve to bring matters to their ordinary standard.

Cattle and sheep have experienced a dull sale for some time past; and, from the quantity of stock in hand, there is reason to assert that the scale of prices will not be soon advanced. Perhaps the scale was too high for several years past to be maintained. Be that as it may, lean stock seldom met with duller sales than in the course of this year, which is a discouraging circumstance to the breeder; and it may be added, that the feeders are not in a much better situation. Though this has not been a bad grass season, when taken in a general view, yet, when particulars are descended to, it cannot be considered as favourable either to the feeding of cattle or sheep. Great numbers of both were in a low condition at its commencement. The after warm weather prevented the usual improvement even upon the best soils; and the succeeding rains softened the grass, and carried off its nutritive powers. Whatever truth may be in these observations, one thing is certain, viz. that cattle and sheep have made less progress this year than usual, even when fed upon the best pastures.

Another thing very much against the interest of one class of stock farmers, is the depression upon the wool market. Wool this year, unless of a good quality, cannot find a market; and will not be purchased, even when of the best quality, unless at a reduced price. This depression is occasioned by a large stock in hand, and a partial stagnation of foreign trade, whereby the demand for woollen goods is considerably lessened. It is to be lamented, that many people will, in consequence, suffer severely. Indeed, it is to be dreaded that few sheep farmers, who have lately entered into leases, will be able to fulfil the engagements which they then came under. Indulgence, if not abatement, from landlords, seems to be imperiously called for, otherwise a most respectable set of men stand a chance of being ruined and made miserable.

The rent of land of every kind still keeps up; and it may be supposed the *mania* is so violent, that it can only be cured by a few adverse seasons. Perhaps the present one may be of some use in curing the disorder; at least, it is certain that the situation of the farmer was seldom less enviable than at the present moment. Burdened with heavy rents, taxed to the teeth, both directly and indirectly, and carrying on every branch of his operations at an increased expense, if the commodities which he raises fall in value, he himself must fall also. On these accounts, it may be maintained, that proprietors of land, who employ every mean to rack up rent,—who fly from one person to another

other to get a better *bode*,—who whisper, if you do not offer such a sum, another person will be preferred,—who, in fact, adopt methods to raise rent, which, if practised by the farmer when selling his corn or cattle, would be attended with indelible disgrace;—on these accounts, it may be maintained, that proprietors, who act in the way described, neither consult their own interest, nor, far less, that of the public. 'A penny more will buy the whistle,' is a common saying with some proprietors; but it may be doubted, whether such view the subject in a proper light. A bankrupt tenant or two, with a farm or farms thrown up in a deteriorated condition, would settle this point more effectually than an hundred thousand arguments.

The address of the worthy and patriotic President, at the last sitting of the Board of Agriculture (June 7th), shows, in stronger terms than can here be urged, the important benefits which may be derived from that national institution. The Board, with much judgement, have resolved to publish surveys of every county of the kingdom, being satisfied that there cannot be a better method of disseminating agricultural information. Here the Board are in the right; for the original surveys, though many of them could only be considered as rude and imperfect drafts, were the first means of turning the public mind to agricultural disquisition. Among others who have recently undertaken to assist in the great work of surveying this northern part of the island, may be noticed Sir GEORGE STEWART MACKENZIE, Bart. who is appointed for the counties of Ross and Cromarty, and Mr JOHN SHIRREFF for Orkney and Shetland. From the reports of these gentlemen, much valuable and original information may be expected. Both are gifted by nature with strong minds, and both are capable of communicating to the public the results of their inquiries in a perspicuous manner. Really and truly, very little is known of these districts, even by the Lowlanders of Scotland; and it is matter of surprise, that that respectable body, the *Highland Society of Scotland*, have not, long before this time, endeavoured to satisfy the public with regard to the actual state of the country more particularly under their notice, instead of offering premiums for statistical accounts of other districts, which undoubtedly are without the line originally marked as the sphere of their improvements.

It deserves to be noticed, that a worthy and respectable proprietor in Morayshire, has lately made an improvement of great consequence, which will not only be advantageous to himself, but eminently beneficial to others whose grounds are similarly circumstanced. Perhaps few readers of the Magazine are aware, that, in the year 1697, some of the best lands in Morayshire were so covered with blown sand as to be rendered in a manner useless, either for tillage or the growth of grasses. In that state they remained till lately, when the present proprietor, by trenching the ground at the expense of 10*l.* or 12*l.* per acre, brought up the old soil to the surface, thereby accomplishing an improvement of the greatest mag-

nitude. This year, seventeen acres of the trenched ground is under wheat, and the crop is of that description as may well be supposed capable of defraying the whole expense incurred during the trenching process. Would every proprietor of land in Britain be as attentive to the improvement of his estate, as the worthy and respectable gentleman alluded to, it is difficult to say how far the island might be benefited. But, alas! alas!! the improvement of most proprietors is solely confined to an increase of their rent-rolls. This, for some years past, has been an easy business, neither requiring any outlay of capital, nor even the slightest degree of knowledge; though it may be suspected, that this road to improvement is now nearly barred up. Other kinds of improvement, are, however, of a more durable nature, and those who practise them are sure of reaping a concomitant advantage, proportional to the wisdom and efficacy of the measures employed in carrying them into execution.

Upon the whole, it may be stated, that this year is not like to be one which will be favourable to the farming interest of the country. Independent of the adverse weather already noticed, which has been of incalculable disadvantage to those concerned in agriculture, the low price which barley must necessarily obtain in the market, is an evil which will be seriously felt in many corn districts. The low price of live stock, and the stagnation of the wool trade, will also be sensibly felt in all the breeding districts. In short, it does not admit of a doubt, that a farm in these districts, taken in 1805 at a fair rent, is not now able to pay more than three fourths of what was then promised; and if the information be correct on which this statement is founded, the evils pointed out are already decisively experienced in many parts of Scotland. As for England, the rent of land has not advanced with so much rapidity; therefore, farmers in the breeding districts there are not exposed to the like evils which their Scottish brethren have too much cause to dread, under the circumstances which presently affect them.——*Aug. 17th.*

SCOTLAND.

Banffshire Quarterly Report.

Since the date of last report, the weather has proved highly favourable for executing every branch of field work the farmer could possibly be engaged in. The preparation for turnips went on with great facility; and many farmers, from the great loss sustained by the late sowing of this root for several years back, availing themselves of so favourable an opportunity, got the seed work mostly concluded by the 15th and 20th of June. As usual, the first sown have a great superiority, and promise to be excellent, provided they do not run to seed in the autumn; a circumstance rarely occurring in this district.

The different crops of grain made very rapid progress through the whole of May, and to the last week of June, the seed having done

done its part beyond all expectation. But intense drought setting in at that time, gave the crop, upon all inferior soils, a severe check, especially upon those under bad cultivation. The last eight days of the drought were unusually warm, and would have soon proved too hard for most soils and situations, had not relief fortunately been presented. The aspect, at that time, was rather an alarming one to the farmer, as the supply of provision appeared very scanty, and, taking all circumstances into account, a continuance of it would have been truly lamentable. On the 17th instant, a thunder storm, with vivid flashes of lightning, prevailed for two or three hours, accompanied by a heavy fall of rain. This, with the refreshing showers and warmth experienced since that time, has produced a wonderful change; and the crop may now be reported, according to present appearances, fully equal to an average, both with regard to bulk and produce, and every prospect of harvest commencing several weeks sooner than last year. If there is any superiority of crops, it seems to be with the barley, which was for the most part sown early, and, on that account, has all along resisted the drought. Hay will be rather a scarce article, from many fields being depastured in the spring. On that account, the cutting has been delayed till a later period than usual; and if the rains continue, it must be but indifferently cured. The pastures have never, as yet, been abundant. In the first instance, owing to a heavy stock being early laid on, and the weather afterwards so dry, vegetation made little progress. Cattle, in good condition, are going off at moderate prices, but scarcely equal to those of last year; whilst beasts of the inferior sort are little sought after; and it is to be apprehended, that too many of this description will remain on hand another year, it being now evident that an overstock is still in the country, notwithstanding of all the slaughter and death which happened last spring.

Grain made a considerable advance in price in the early part of summer. Barley was sold as high as 45s.; oats from 35s. to 40s. *per* boll, of 128 Scots pints; and oatmeal at 35s. and 36s. *per* boll of 8 stone Dutch. Prices have, however, declined considerably for some weeks past; and a sufficient supply will be obtained till the arrival of a new crop. Beef and mutton sell in the market at 6d. and 7d. *per* lib. Dutch. At our market for engaging servants for the half year, the wages for principal ploughmen were only reduced from 8*l.* Sterling to 7*l.* 10s., and seven guineas; but inferior ones were hired 30s. and 40s. lower than the preceding half year. Labourers *per* day 10d. and 1s. with victuals.——*26th July.*

West Stirlingshire Quarterly Report.

The weather, during the quarter, has been uncommonly favourable to the progress of vegetation, and to the operations of husbandry. The rapid growth, which commenced with the genial warmth and plentiful rains during the month of May, was interrupted in some degree by frequent frosts in the beginning of June, and ultimately checked by a tract of sultry weather which succeed-

ed, the duration and intensity of which have seldom been equalled in this climate. About the middle of July rains returned, attended with violent thunder storms, and still continue to refresh the parched ground, and to support a vigorous vegetation.

To no crop has the drought been so injurious as to turnips. Few farmers had finished the seed process before the hot weather commenced; and, from the want of rain for a whole month, the moisture of the earth produced only a languid braird, which often died totally away. Much seed lay in the ground, and is now springing up; but the season being so far advanced, no adequate crop can be expected. The culture of turnips is still very limited, and little understood in this district. Our farmers have not yet ascertained the proper mode of conducting the seed process. Some make a rut in the drill, and drop the seed through their fingers. Others take a walking staff, and hold a little seed in the palm of the same hand; they, at every six or eight inches of interval, thrust the staff into the ground, and, by moving it smartly round, allow some particles to escape from under the palm, which slide down the staff into the pit which it had prepared. The advantages of this method are said to be, that one man may sow an acre of turnips in a day; that it supersedes the double operation of first preparing a rut, and then delivering the seed; and that it afterwards facilitates the business of thinning the turnips, as they spring up from every pit in small tufts, the operator having only to separate the *master plant*, and cut down the rest with one stroke. Some people, who raise turnips to the extent of about an acre each, begin to suspect the value of these advantages, and seem to think that every parish should raise a joint stock, and purchase a drill-barrow for the common good! This will be one, perhaps the first, step to improvement.

The hay harvest was finished about the beginning of July; the crop abundant, and generally secured without a shower. From the bulkiness of the commodity, and the consequent expense of carriage, the prices of hay depend upon local circumstances. Apprehensions being entertained, from the excessive drought, that straw would be deficient, hay was early bought partially at 8d. *per* stone; but since the abundant rains have dissipated this ground of alarm, the price has fallen to 6d. or 6½d.

Corn crops are still considerably later than usual. Wheat, beans, and barley, are very luxuriant. Oats, from the combined influence of bad seed, an unfavourable spring, and the ravages of the grub, rarely equal an average crop. Potatoes universally promise an early and an abundant supply to the labouring classes.

Pasturage still continues excellent. Sheep have scarcely recovered from the injuries of winter and spring. Ewes have been deficient in milk, and have delivered their lambs in inferior order to the market. Though the carcase be 10 *per cent.* lighter, and the skins one third cheaper than last year, lambs still retain the same price, and are sold at 10s. or 10s. 6d. a-head, two being given to the score,

owing to the lambs from the Highlands being in such bad condition, as not to enter into competition with those of Stirlingshire. Wool of all kinds is a drug. Cheviot wool, instead of selling as formerly at 30s. *per* stone, and tarry wool of the black-faced breed at 9s., are with great difficulty sold in small quantities at two thirds of their respective prices.——1*st August.*

Letter from Invernesshire, 2d August.

'THE first of summer was uncommonly favourable to vegetation, being sooner warm than usual, which caused every thing to grow with a degree of speed much greater than commonly happens in this part of the island. After some genial showers, we had a run of dry weather from 10th June to 17th July, which caused vegetation to decline, and impeded considerably the progress both of corn and grass. Some partial showers fell after the 17th; but, on the 21st, severe rains commenced, which still continue, and have caused incalculable damage in numerous instances. The hay crop, which was all cut, is, in particular, much damaged, very little of it being stacked, and the greatest part either in the rick or broad upon the ground. I am happy, however, to say, that the grain crops promise well, especially upon good soils, though, it must be stated, that many of the light shallow lands carry crops of a different description. Wheat, in general, promises to be bulky. Barley is likewise good; but oats are the most indifferent crop, though still they may be regarded as equal to an average of years. Potatoes have an excellent appearance; a circumstance of great importance to the labouring classes. Should the weather set in favourable, harvest will begin in two weeks; and really and truly there is much need for it, the country being exhausted of grain. For black cattle in a lean state, the demand this season has not been great, though any thing that is fat sells very well.'

Letter from a Gentleman on a Tour, dated Kelso, August 13.

'I TAKE the liberty to trouble you with the following lines, relative to my journey since leaving you, and to return my best thanks for the letters, which were of much use, those to whom they were addressed having shown me much civility.

'After leaving Dunbar, I went to Dunglas, where I staid two days; thence to Ayton, Berwick, Swinton, Kelso, Greenlaw, Dunse, and Coldstream; staying in each neighbourhood a few days with those I was recommended to, or in any place where most convenient for seeing agricultural operations. From Coldstream I went to Mr Geo. Culley at Eastfield, Mr Jobson, Turvelaws, near Wooler, and to several other parts in Northumberland; then to Annan, Dumfries, Kirkcudbright, Moffat, Langholm, Hawick, Jedburgh and Kelso; in which place and neighbourhood I will remain a few weeks, and then return through Berwick to Lothian.

'I was at Charlesfield about a fortnight ago, and received much attention from Mr Thomson. His crops are good, particularly the oats; and he has greatly improved his farm by drainage, and is still

doing so; by which means, in the course of a few years, he will make it an excellent one. He has also cultivated a good proportion of his mossy grounds, which carry excellent crops.

'The crops in Northumberland, Dumfries-shire, &c. are generally good; particularly on the banks of the Tweed, and in the neighbourhood of Kelso. However, the wheat is not so good as was expected; and, on examinination, is generally found defective.

'The turnips, on the whole, are doing well, though in some parts they have failed. The weather, for some time past, has been rainy, and still continues so; of course the hay is much injured, and little of it got into the stackyard.'

Dumfries-shire Quarterly Report.

THE crops in this district appear rich and luxuriant in an uncommon degree. For this very pleasing prospect, we are chiefly indebted to the fine warm weather which has prevailed through the whole of the summer, though the judicious management, now so generally practised, has also no doubt contributed not a little. Wheat, notwithstanding the badness of the last seed time, is a particularly heavy crop; but some damage appears to be done to it, where most luxuriant, by the late thunder showers. Barley and oats, our principal crops, and by which many of our corn farmers pay their rents, are excellent, and have every appearance of being cut very soon. From the present prospect, the greater part of the harvest should be made within the month of August.

The clover and ryegrass hay is safely put up in summer ricks, and so many have seldom been observed on the ground. Turnips have now a good appearance, though we were alarmed greatly for them at first, when newly come up, on account of the dry weather in the end of June and beginning of July, together with the fly setting on them at that time. Potatoes universally look well, and are very forward. In early situations some are already beginning to take them up. They will be a very seasonable relief for the common people, who at present are paying so extremely high for oatmeal.

The black cattle and sheep markets, especially the latter, have been very dull, though the cattle one is now a little quickened. Lambs are proportionally at a better price than what was obtained for rough sheep in the beginning of the season. This is probably owing to a failure in the usual numbers, especially of the Cheviot and other white-faced breeds.

The wool-staplers of Yorkshire, who attend the markets in this county, would bid no price about three weeks ago; but they have since purchased almost the whole year's produce. Cheviot sheep wool brought from 18s. to 24s.; short sheep wool, 5s. and 6s. the stone. But these prices, it is feared, are not adequate to the rents of farms taken when wool was at a higher rate.

Wheat, for the last month, has sold from 10s. to 11s.; Oats, from 4s. to 5s. the Winchester bushel. Oatmeal was for some months at

4s.

4s. 6d. the stone, but is now down at 4s. Beef and mutton, which sold till the beginning of July from 6d. to 8d., is now at 5d. and 6d. the lib.——*Aug.* 4.

Tweeddale Quarterly Report.

THE weather, since last report, whether damp or dry, has continued uniformly warm, and almost without a single breath of wind; consequently vegetation came on more rapidly than usually experienced in North Britain. The last week of June, and two first weeks of July, did not furnish a single drop of rain; and the heat being uncommonly great, all the early oats, on gravelly and light soils, suffered considerably, and, being in the ear before the late rain set in, derived less advantage from that supply than those on high land and of the late kinds, which have been much improved thereby. Sown grass suffered little by the drought, being near perfection before it set in; but as the clover was much more abundant (especially on dry deep soils) than is usually the case, the cutting was kept back a week longer than usual. For that reason the cutting was not finished when the weather broke, which will be a great loss to many people. The oat crops, in the upper districts, appear to be abundant, as they received little check from the short, but severe drought, while they obtained most ample benefit from the after rains. Barley, in general, appears to be rather above an average, though it may be doubted that it will not obtain a good market. Some people, however, of political foresight (when they saw the bill to prohibit distillation from grain brought into Parliament), proceeded with caution, as they alleged that colonial produce was seldom put in the balance with home produce, but the latter kicked the beam. Indeed, it would appear, that the gentlemen concerned in the distillery trade entertained similar ideas, as the demand on the grain markets rose every day until the prohibition commenced, which, being a month longer than usual, took off more of the disposable grain than was perhaps sufficient for two months food; consequently, if the intention of the framers of the bill was to prevent bread corn from being made into whisky, in order that the labouring part of the community might be supplied with bread, the measure in view had the very contrary effect. Whether it will enable the West India planters to pay their taxes, or not, is a dubious circumstance, though it is certain that Scots farmers will not be enabled to pay theirs. On account of the scarcity and badness of peas at seed time, and the total destruction of that crop last year by the louse, very few were sown this season; but where sown, they promise to be good, having never been broke down by blustering weather, and are poded from top to bottom. Upon the whole, the grain and hay crops (if the weather is propitious) will be above an average. Barley harvest may commence, if the weather is dry, in ten days, and will be general in little more than a fortnight.

Potatoes are a good crop, and forward. Turnips, especially those early sown, are in a thriving state; and, if the wetness does not hurt them,

them, will, in general, turn out well. There is little rough grain on hand; but there may be as much meal as will equal the demand until the new crop is marketed. Sheep and lamb markets are not so good as last year; yet, on account of their inferior quality, the prices may in reality be higher. Stock was severely stunted in the first stage, and never made the progress that the goodness of the season would seem to warrant. Linton market, for hogs, was not amiss, the numbers shown being scarce equal to the demand. The wool market (if a market it can be called), when few prices are condescended on, is exceedingly dull. The wool, I believe, will be packed and carried to England, there to take its fate. Some people, however, are keeping back; and, if newspaper reports are to be trusted, very ample commissions are on the way, though from whom the public are yet to learn. Black cattle (except where ready for the butcher, or in full show of milk) have had dull sale through summer; perhaps the good foggages may quicken the demand.—— *Aug.* 6.

Dumbartonshire Quarterly Report.

The weather, since last report, was favourable for the growth of corn and grass, till the 24th July last, when the rains set in with much thunder, and have continued very heavy, with little interval, till the present time. These rains have laid all the strong crops, especially the wheat, beyond the chance of rising again. Had they fallen in moderation, they were much needed, as the extreme heat had parched the ground very much; but even yet, if the weather sets in good, our crop will turn out well.

The wheats, although thin and unpromising in spring, have improved amazingly, in consequence of the genial summer, and, but for the excessive rains, would have been excellent in quality. Formerly no white wheat was sown in this district; but this season it has been very generally sown, and, from its appearance hitherto, with every prospect of success. Hay has proved a fine crop, the quality excellent, having been saved without a shower. The potatoes look well; and, from the quantity planted, will be equal to the demand, unless very bad weather ensue. Oats have been much benefited by the rains; but many fields of bear, from wet sowing, have failed. Every crop was got dry sown this year except the bear, and it bears the mark of its misfortune still. Upon the whole, if we have good weather for a few weeks, an average crop will be reaped; but in this county, where there is much high ground, it will not be out of danger from the weather for a considerable time; and when the weather breaks, after so much thunder as we had in the end of July, it generally turns out very wet, as the two last seasons demonstrate.

Markets for grain, which were lately very high, are coming down a little, and are expected to fall progressively as the harvest advances; markets for other produce much at the usual rates.—— *Aug.* 6.

Carse

Carse of Gowrie Quarterly Report.

During the last week of May and the three first weeks of June, the weather was extremely favourable to vegetation, particularly of grasses and late sown wheats, which had suffered much by the severe winter and spring. A considerable part of the wheat at the beginning of May was by many farmers scarcely thought worth letting stand; but, from the favourable weather that has since occurred, it will, in most cases, be a tolerable fair crop. The latter end of June and the first two weeks of July were free from rain, with much heat, which brought the different crops forward astonishingly, and was favourable for cutting and making the hay crop, which in almost every instance has proved good, and was in the tramp-rick (with few exceptions) before the rains came about the 20th ultimo. Since that time, there has scarcely been a dry day, which has proved very injurious to the luxuriant crops, particularly the fallow wheats, some of the best fields being lodged very much; and if dry weather do not come soon, the loss by its being so lodged, will be considerable.

Should dry weather set in, the wheat upon the whole will be fully an average crop; also barley and oats, the former of which will be ready to cut down in many places in the course of eight or ten days, though some few fields are earlier. Peas and beans may come to be equal to an average crop; but, in most situations, not more. Much depends upon the weather between and reaping time. General harvest is expected the week after next.

The clovers (second growth) look well in general, also the turnips; though, in some fields of very dry soil, there are blanks, but to no great extent. Potatoes, of which there are a great deal planted, promise well, and will, barring accidents, be a good crop. The pastures are very luxuriant, and afford plenty of keep for stock, which in most instances is doing well. Prices of cattle for the English and South-country markets are low, but good fat (which has as yet been scarce) brings 10s. per stone Dutch weight, sink.

The prices of grain, which are rather on the decline, are nearly as follows—Wheat, 40s. to 42s.; Barley, (little to sell), 36s. to 40s.; Oats, from 32s. to 40s.; Beans, 36s. to 40s.; Oatmeal, 33s. to 37s. all per boll, Linlithgow measure. Hay from the tramp-rick, 9d. per stone of 20 lib., Amsterdam weight. Day-labourers wages and yearly servants are lower considerably than last year.—— *August* 6.

Mid-Lothian Quarterly Report.

Since the first of May, few seasons have exhibited such mild genial weather as the present one, whether for the purpose of preparing the fallows for the succeeding crop, or the culture and advancement of the present one. About the middle of last month rain came and was needed; but, within the last fortnight, it has become excessive, not a single dry day has been seen to an end. A stop has been put completely to the operations of the plough, the harrow, and

and even the hoe. The growing corns are laid to a considerable extent. Beans and peas have assumed a black colour, and are affected in a great degree similar to what they were last year; and it is dreaded that some fields of wheat are not entirely exempted from the direful effects of mildew.

As little hay was secured in the stack before the commencement of these rains, it has sustained great injury, whether in the tramprick, the cock, or the swath; so much so, that it is supposed from one fourth to one third of it has been literally rendered useless. The river Almond has overflowed its banks amongst the growing corns; and as harvest will become pretty general in about two weeks hence, dry weather is most anxiously looked for.

Should this happy event take place soon, it will tend to dissipate the apprehensions at present entertained for the safety of a crop, which, to appearance, has seldom been exceeded, particularly in oats and barley.

Even the wheat, which, at the date of last report, was rather thin, has greatly filled up, has a fine ear, and, if well got without previous injury, will yield fully more than an average crop.

Under this impression, sales have been heavy. Oats, in particular, have been gradually dropping; and it is pretty well ascertained that neither oats nor barley would have reached such high prices, had it not been for the investigations of the late Sugar Committee.

Owing to the noise of scheming writers in the newspapers, the Magistrates of Edinburgh, some weeks since, thought it incumbent upon them to take a proof of the prices of wheat, and to fix the assize of bread; the result of which was, a rise of a halfpenny upon the quartern loaf, which the bakers had no intention of doing, had they been left to themselves. This circumstance shows, that speculators should either only write upon subjects which they understand, or confine their lucubrations to their closets, for which the public would thank them, and in which way they would enjoy the passive comfort of doing no harm.

The butcher markets have continued pretty steady, and are likely to continue so for some time, as the lambs which usually come to market from the high districts, at this period of the season, are much scarcer than usual, owing to the great loss amongst them in the month of April last.—*August* 8.

Letter from the District of Carrick, Ayrshire, August 10.

'This has been one of the most extraordinary summers ever remembered by the oldest people alive. The fine genial warmth that began with the month of May, has continued, without a single day's interruption, to the present time. The month of June and the first half of July were generally dry; but, though the heat was excessive, it was not a parching drought. Scarce a breath of wind was felt, except one day. In consequence of this, vegetation both of corn and grass proceeded with uncommon rapidity; and the former acquired a degree of strength and luxuriance seldom seen in this part

part of the country. For the space of three weeks from the 15th of July, we have had thunder almost every day, with immense torrents of rain, for at least twenty miles round. This rain coming on at such a critical time, has nearly blasted the hopes of the husbandman, which, in the former part of the season, had been raised to the highest pitch. All the best and strongest of the corns have been laid flat; and it is extremely doubtful if almost any state of the weather can render them ultimately productive. In fact, it is now distressing to see them. The wheat, of which very considerable quantities are sown, must have received irreparable injury besides lodging, by rust and mildew. For three weeks past, there was nearly an universal stop put to the making of hay. What was in ricks, remained so till within these few days, and must have sustained a considerable loss. Great part of the natural meadow and moor hay is, fortunately, not yet cut down. The three weeks succeeding the 15th of July were equally unfavourable to all farming operations. While the excessive heat and moisture encouraged the growth of weeds in an uncommon degree, they brought the summer-fallows to such a mortar state, that they were incapable of being wrought, or having dung applied to them. For some days past, a favourable change of weather has appeared, which, it is hoped, will, partially at least, remedy these dreadful evils. Upon all our light grounds this year there are the best and most promising crops; and as a considerable part of our land is of this description, it will help to indemnify for the loss sustained in the other. The price of grain has kept tolerably steady during the quarter. Oatmeal, which with us generally regulates the market, has been from 4s. to 4s. 8d. the stone, Dutch weight, in the Ayr market, and is at present 4s. 4d. The price of butcher meat has likewise kept up; though lean and breeding stock, in general all that is intended for the South, is still greatly depressed; and if there is such another year as last at the close of the season, it will bear hard indeed upon the breeder and grazier. It is almost unnecessary to mention, that owing to the thinness of our population, and the present great demand for the army and navy, all farm labour and piece work is as high as ever; and the price of land is daily increasing.'

Morayshire Quarterly Report.

The cold spring kept the young wheat plants from tillering for a long time; but the unusual warmth which happened afterwards, brought them fast forward; and the crop, in point of quantity, may be deemed an average one. There is, however, a very general complaint of an unusual quantity of smut; and to all appearance it is too well founded. The same tract of dry and warm weather, which had the most beneficial effects on the wheat, operated quite differently on the oats and barley. On our thin soils, both are miserably stinted; and although the late rains will occasion more straw, they cannot much add to the quantity of grain, especially barley, as a second growth is always of inferior quality. Our loams and clays,

on

on the whole, present a fair appearance of spring corn; and hitherto, none of the crops are materially injured by the wet. Beans and peas are but very partially cultivated in this county, and we have seldom any for export. Hay is a middling crop; but several fields lye in a very precarious state, being still in the *shake cole*. At our fair yesterday, there was a great show of cattle, and little business done. Choice beasts sold at about 25 *per cent.* under last year's prices; for inferior sorts there was no sort of demand, and the country is overstocked. Turnip and potatoe are both promising crops. There is now a sufficiency of grain and meal among us, and prices daily decline. If, during the winter and spring, Continental and American supplies are poured into the kingdom, and the Irish and our own crops prove abundant, while the distilleries are stopped, and cattle so much below par, it requires no great foresight to see unfavourable times for the agricultural interest; and that it should meet with a check, when such rapid and expensive improvements are carrying on through most districts in Scotland, is perhaps not the best of policy.—*August* 11.

Caithness Quarterly Report.

The summer months in Caithness have been uncommonly fine, although rather dry. The crops, in general, were panting for rain, which came about 20th July, and has ever since continued occasionally with the greatest violence. The oats have mended considerably, and may be considered a safe standing crop on deep soils; those on thin lands are rather poor, and not equal to two thirds average. The potatoe oat seems to thrive well on our deep rich loams; and, from the strength of the stalk, stands the violence of the rains better than the red oat.

The bear crop, in general, is but thin, owing to the intense drought in the early stages of its growth; although what was sown early, on deep well-laboured soils, has proved to be a weighty crop, and now begins to fill. There are some patches of bear on thin soils ready for the sickle; and, if the weather gets dry, harvest will be general in four weeks. The potatoe crop appears to be most productive. A great breadth has been planted; and I may safely say, that the method of managing this root in Caithness is equal to any practised elsewhere. The drill system is used here. We plant them on horse-litter; cover them by a double mouldboard plough; harrow when the weeds begin to appear, which levels the drills, and permits the potatoes to appear sooner. We then hoe and weed with the hand, when occasion requires; horse-hoe the intervals frequently; lastly, set up the plants by the double mouldboard plough.

The turnip crops are rather inferior this year, owing to the violence of the drought; however, since the rains came, they have made great progress; and there are many fields that will give a full average crop, and are getting their second and third hoeing. We seldom sow turnips broadcast, but cultivate them according to the drill husbandry,

husbandry, and in this way generally obtain abundant crops. Yellow turnip is found to be a very useful root, horses being fond of it in winter and during the months of February and March, as it keeps much better than the common red topped, and has more nourishment in the spring months. The Swedish is very fit for spring use, but often misgives unless early sown. Hay harvest is nearly over, but the crop has proved rather light in general. It is mostly in tramp cole, or in the hay-yard, and was got well and safe in. The method of winning hay in this district is as follows. We gather it from the scythe, or next day at furthest, into small *coles* or *cocks*. We cock it over every day, or second day, putting two into one, as we find the state of the hay will bear. By this method the hay is kept dry. No ordinary rain will penetrate very deep into the cocks; the hay is therefore *now* in a fine green state, retaining a good flavour, with all its natural juices preserved. In some counties I have seen the hay left from the scythe to dry on the field in the square, for four or five days, until it lost its colour; and when rain or foggy weather came on, it could not be gathered for weeks. The whole surface so exposed, could not fail to damage the hay in the shortest time. It is better never to risk, and so gather from the scythe. We are now cutting meadow hay, which is of fine quality this year, and on some meadows very heavy crops are raised. On a meadow belonging to Mr Smith of Olrig, which is naturally flooded with marl water, the crop, in general, averages from 3 to 400 stone an acre; 24 lib. Dutch to the stone. Cattle have been a dead stock this year with the farmer, which has put him to great hardships in this season of scarcity. Want of straw and hay in spring, reduced the cattle to mere skeletons; and many died of want, after having eaten the straw and seed corn. They are now getting into good order; and drovers have made their appearance, and give fair prices for good cattle. Many thousands of small Highland cattle are annually sent from Caithness, and prove profitable to the feeders in the South, as they yield fine sweet beef, and well mixed, of a superior quality to the larger cattle that are raised in the more southern climates. Caithness cattle are much improved of late, from the importation of bulls of the choisest breeds that could be found from various counties. There is hardly any old grain on hand, having been shipped off in great quantities, early in the spring, and to a greater extent than the county could spare; which occasioned a scarcity in the summer months, and caused sundry well disposed individuals to import small parcels, which supplied the inhabitants, until Sir John Sinclair, our Member of Parliament, with a liberality that does him credit, sent 1100 bolls, which his manager at Thurso Castle sells at prime cost in small quantities, even on credit, to every one who applies. This has proved a seasonable, and a most effectual relief to many individuals, and removed the apprehensions of want which at one period threatened us. The herring fishing has commenced with

with great promise at Wick, and all along that coast, and many barrels are already got.—*August* 12.

Letter from the County of Wigton, Aug. 15.

'THE weather, from the beginning of May to the 20th of July, was favourable for all kinds of farm operations, and also friendly to vegetation. The corn crops, at that time, looked in general remarkably well; but after the last-mentioned date, till the 9th August, there were great falls of rain, accompanied by thunder and lightning, more so than has for many years prevailed in this district, which put a stop to almost every branch of farm operations. The strong corns are greatly lodged. The clover and ryegrass-hay, which was a good crop, is greatly damaged, there being very little stacked before the rains set in. However, a few good days in the course of last week were favourable to those who embraced the opportunity of taking down the cocks, and of preparing the hay for the stack. Potatoes appear to be a very bulky crop; but I am afraid they will be much hurt by the rains, as they are getting two strong in the shaw. Turnips appear to be a bad crop. They were much hurt by the wire-worm at the root; and now a green worm has got upon the leaf, which appears at present to make a total destruction. Corn markets have been pretty high for some time past, but are rather upon the decline. Oatmeal is selling at 3s. 6d. per stone; new potatoes 1s. per bushel. There is little demand here, at present, for either fat or lean cattle, and the prices are rather upon the decline. The harvest is begun, several patches of bear being cut; but there will be no general harvest for two weeks to come. Upon the lands of Baldoon, the harvest will be general in the course of eight or ten days, and the crops are very bulky; but how they will turn out, time will only determine.'

Aberdeenshire Quarterly Report.

THE bygone quarter has been one of the finest and warmest that is perhaps in the recollection of any man alive. From the commencement of the good weather at the first of May, until the 18th of July, there fell very little rain, and the last half of the month of June, and first of July, was exceedingly dry and warm. A great deal of rain, however, has fallen since; but the wind, through the whole quarter, has been moderate.

Hay is a light crop on the whole, succeeding only on thick land in good order, which got up early, and could withstand the drought. Upon thin and high-lying land, it is almost nothing. What of it was early cut, was stacked in the highest order; but the fields which were cut late in the season, have suffered exceedingly by the rain. Pasture-grass has been rather scanty throughout. Potatoes have a luxuriant appearance; and, if dry weather set in soon, will be a very abundant crop. Turnips that were early sown are far advanced, and make an appearance on the ground almost beyond precedent at this season; whilst the later sown, on dry or exposed land, either could not vegetate, or were killed by the intense drought, before they could push

push the root far enough into the ground to receive support; therefore, in many cases, this crop has failed.

Oats, upon early and warm soils, were generally stunted before the rains broke out: they may be rich in grain, but are short of fodder. Where that is not the case, and upon all strong, damp, and late land, they exhibit a full crop, sufficiently early, with plenty of straw. Bear is, all over, a full crop, and very fine grain; part of it already cut down, and almost the whole within eight or ten days of being ready for the sickle. Nor are the oats far behind. The early kinds will follow the bear in immediate succession; and, in all probability, harvest will be finished in this county earlier than for many years past. So much for the fineness of a season, which can correct almost every evil,—can support the hopes of man, and render his fears idle and groundless.

Oats and oatmeal were, at the 20th of June, worth from 32s. to 35s.; bear 40s. per boll: they are now worth from 21s. to 25s. per ditto.

The price of labour continues with very little variation. Cattle in good order have sold, throughout the summer, readily, and at fair prices. Lean stock at low prices, there being few purchasers.—— *Aug.* 15.

Letter from a Gentleman in Caithness, dated 16th August 1808, on Destroying the Grub by Rolling.

'LAST summer, the grub did much damage. A clover lea field of mine, sown with potatoe-oats, was attacked, and, for three or four days, grubs were spreading fast. I applied a heavy roller (cast iron) of about 13 cwt. to it, about an hour before daylight, and, after a night intervening, a second time, which perfectly stopped their progress; and even the part attacked now bears a heavy crop, but not so forward as the rest.

'My servant who performed the operation says, that the whole surface was covered with grubs the first morning, but that he saw but few the second. Having this year had a very large summer-fallow, it called my attention to the effect of rolling; and from the application of my roller (28 inches diameter), I am satisfied that the stone and wood rollers in use among us, are of little if any advantage. The weight of the stone roller is too great for its diameter. When applied to rough land, it is heavy to work, and hops from clod to clod without effect. The want of weight in the wood rollers renders them of little use.

'In the west of Scotland, rollers are of cast iron, in divisions, which answer uncommonly well, and are particularly well calculated for turning.'

East Lothian Quarterly Report.

THE grain crops of this county, previous to the last week of July, promised, with few exceptions, to make an abundant return to the cultivator; but the pleasant appearances of that time were in a great measure removed, by a succession of rains, which fell almost every

day, from the 24th July to the 13th of the current month, whereby, of course, the best concerted plans of husbandry were in some degree overturned. As the weather continued remarkably warm, and generally calm, it was apprehended that the strong corns would immediately suffer. Perhaps the damage is not so great as was dreaded; though it is evident, to the most superficial observer, that the wheats are materially injured. The thin-chaffed varieties are now usually sown in this district; and to this circumstance may be attributed the partial escape from mildew, in a season eminently calculated for producing that baneful disorder. What is surprising, wheat upon dry lands appears to have suffered most. Perhaps the crop, upon such soils, was in a languishing and debilitated state, at the period when the rainy weather commenced; and, though it might have been refreshed and recovered by gentle moisture, yet was unable, in its then sickly state, to bear up against the effects of the deluges which fell from day to day for such a length of time. For these reasons, the wheat crop of this county must be reported as much below an average as to quantity, and likewise as of inferior quality, to the produce of ordinary seasons. In fact, the goodness or badness of wheat, as has often been observed, depends entirely upon the degree of sunshine and heat which prevail, from the blossoming of the ear to the period when the grain is ripened. This year, wheat blossomed well, and so far matters went right; but the process of maturation was carried on under circumstances fully as unfavourable as in any season within remembrance, those of 1782 and 1799 excepted.

Barley would have been an excellent crop, had not the rains intervened. As matters were, this crop is still above par, though the grain will be coarser, and contain less saccharine substance than originally promised. Oats, which are a kind of aquatic plant, suffered less than the other grains; any damage done being chiefly confined to such fields as were lodged by the oppressing weight of rain, and unable to rise afterwards. Beans, in many places, were seized with the black canker or jaundice, as last year, though in an inferior degree; and many pea fields, on thin soils, assumed soldiers' colours; after which, improvement is at an end. All these crops, however, are superior to those obtained last year, as will soon appear from the market lists.

Whatever may be the extent of injury to the growing crops from the excessive rains, it admits of no dispute, that the summer-fallowed land has suffered most dreadfully from the uncommon saturation thereby bestowed. Coming at a time when fallows were generally completely reduced and broken down, a quantity of moisture was absorbed, which soured the ground, and retarded the after processes. In fact, the labour of the dry months has been in a manner lost; and, in numerous instances, the intention of fallowing may be considered as utterly disappointed. Very little dung is as yet applied; and, harvest being arrived, the work of one quarter is thus thrown on the back of another, rarely able to bear an additional burden.

Turnips

Turnips are a variable crop. Fields of light soil carrying this root, which were early sown, and timeously cleaned, may be reported as equal to those of any year; but, upon the late sown fields, especially those having the slightest disposition to clay, the braird was imperfect; and, since the rains, the plants, which had made any progress, are become yellow and sickly. Ruta baga is generally good. Potatoes, in most cases, promise to furnish an abundant return.

Among other evils produced by the rains, damage to the hay crop may be estimated as none of the least. When the wet weather set in, perhaps three fourths of the hay in the district stood exposed in the field, where it received irreparable injury. The loss, in many cases, was something like a total one; and in every case, perhaps, fully one third was considerably damaged. The custom of pasturing clovers in the early part of the season, and saving them afterwards for hay, now become prevalent with many farmers, necessarily causes a late hay harvest; whilst it also tends to impair the quality of the article, especially in late and adverse seasons.

The pasture lands have yielded a good bite; though it may be stated that, after the month of June, neither cattle nor sheep fattened so fast as might have been expected. This defect may be attributed to the uncommon heats of July, which generated immense numbers of insects, by whom bestial of all kinds were harassed for at least one half of every day. The rains which succeeded the warm weather, rather added to the evil, than procured an amendment; as the heat, though with intervals, continued as great as ever, whilst the grass lost its strength, and a damp bed remained for the bestial. Prices of fat have declined 10 *per cent.* in the course of the quarter. As for lean stock, the demand has been inconsiderable.

Upon the whole, rural matters, in this district, have not a very promising appearance at present. Owing to the excessive wetness already noticed, all kind of field-work is thrown out of shape, especially upon clay soils. Should the autumn quarter prove dry, and harvest be got cleverly over, matters may be restored to something like their usual state, though at a considerable increase of expense to the farmer; but, should autumn furnish variable weather, and harvest work become a tedious business, the ground lost will not be recovered, nor will the fallow fields be prepared for wheat, in any thing like a husbandman condition.——*Aug.* 17.

Postscript to the East Lothian Report.

Since the above went to press, the weather has become steadily fine, and harvest proceeded with a rapidity rarely witnessed in the best of seasons. The grain fields, especially those of wheat, being completely dead at the root, became ripe in the ear all at once; and, could reapers have been obtained in sufficient numbers, almost every field in the lower parts of the district might by this time have been in the stack-yard.

The injury to the wheats is now tolerably well ascertained. Those of the eastern part of the district have suffered least; but, over the

whole, the loss may be estimated at something like the half of an average crop, quantity and quality being taken into the estimate. In some instances, the crop will do little more than pay the expense of reaping and thrashing. Some of the potatoe-oats are also found to be defective.

Turnips, of late, have been attacked by blight or mildew, and threaten to be a poor crop. The disease affecting them may be attributed to the violent drought of the last fortnight, which has so bound up the soil, that the plants cannot receive their necessary food.——*Aug.* 31.

Letter from a Gentleman in Berwickshire, 2d August.

'I TROUBLE you with these few lines, to call your attention to a circumstance attending the disease called *mildew, yellow gum*, or *rust*, with which the wheat crop is at present infected. When examining some infected wheat on Thursday last with an acquaintance, we noticed a number of *very minute* black flies running about in the ears; and, upon opening those grains (or rather empty cups) that were tainted with dust, a cluster of yellow substances appeared, something like the figure of farina, only of a deep yellow, which, upon examining attentively, appeared to be in motion. This induced me to bring home several of the infected ears in my pocket; and, upon examining these next day with a microscope, I found that the clusters of yellow substances, which the infected grains contained, were congeries of very small yellow caterpillars, nestling with their heads downwards towards the root of the pickle, sometimes to the number of twelve and thirteen in a single grain. Though these caterpillars, while in the ear, appeared so sluggish that their movements were hardly discernible, yet, when shaken out to crawl upon a table, they exhibited considerable feats of agility, sometimes jumping an inch and more at one spring.

'Now, to me it seems probable, that these yellow caterpillars are the larva of the small black fly before mentioned, which may deposit its eggs somewhere about the ear, or in the grain itself, as the larva evidently feeds on the milky juice of the grain. If these caterpillars happen to be dislodged, by any means, from the ear, and fasten upon the straw or blade of the wheat in their fall, it is natural to suppose they will gnaw holes in the leaf and stalk itself in quest of food; and that their incisions and lacerations may, *in their turn*, serve as a nidus for the seeds of those microscopic fungi of yellow dust which Sir Joseph Banks describes.

'As I have no doubt but the fields in Lothian are in the same state as ours, I hope you will get some *amateurs* in natural history to watch the progress of this insect, which, when viewed through a microscope, is something of the annexed figure. It is about one sixteenth of an inch long, and *very narrow* to its length. The larva, or caterpillar, is about one tenth or one twelfth of an inch long; of a flat shape below, and rather thicker in proportion than a common gooseberry caterpillar. I have

found

found some of them in their *pupa* state, when they take the shape which entomologists call *coarctata*. Perhaps you may have observed these small yellow worms before this, but the discovery is quite new *to me.*'

Letter from Falkirk, August 18.

'HAD the reports for the current quarter been transmitted at the usual period, they would certainly have held out the most flattering prospect of an abundant, and very early harvest, that had ever appeared in the Magazine. But, from such a pleasing statement, a considerable deduction must now be made, in consequence of the almost unparalleled wetness of the weather for a month, which has done extensive mischief to many of the crops, and thwarted every rural operation.

'Those who, keeping in mind the sterling wisdom of the old adage, "of making their hay while the sun shone," and who consequently pushed on that operation with unceasing exertion, never had a finer season, and seldom a better crop; such, indeed, got it into the stack in the most perfect condition; but I believe they form but a small proportion, compared with the number that were overtaken by the blast. I conceive that not less than a third part of the hay crop is entirely lost for any useful purpose, and another third greatly damaged. As the crop was good, the price was at first expected to be very low; and, with ordinary weather, this would have been the case: now, however, good hay will certainly be dear. The after months have not agreed well with such an excess of moisture, and will not therefore afford so much food for cattle as in ordinary seasons. Wheat, throughout the whole year, has been the thinnest crop on the ground; but as it passed the blooming process under favourable circumstances, and at an early period, it would, with ordinary weather, have been of superior quality. It has, however, been so long soaked in moisture, lying flat on the ground, that much will in all probability be sprung, and otherwise hurt, before it is got into the stook. The shearing of the early part of this crop has commenced, but much of it will be late. Upon the whole, the wheat crop will be below par.

'Barley, from being uncommonly early, and nearly all cut, has suffered less. It is a good crop; and, occupying a greater breadth of land than for some seasons past, will be above the average of several bypast years. Oats are, almost everywhere, a very large crop; but, having suffered in many places in the spring from the grub, and also from the effect of the late excessive rains, they are ripening unequally. Beans, till of late, were never more promising, but they have, in some degree, followed the same course as last year. They are now much blackened, and quite at a stand, of course will be an inferior crop; but as this untoward appearance did not come on so early as last year, they will not be so much injured. The cleanest and best cultivated drill crops appear to have suffered more than such as are broadcast, with a considerable proportion of peas, and overrun with weeds. Summer fallows are, in general, in a wretched con-

dition, except where great activity and exertion were made to forward them, for which the weather was indeed extremely favourable till after the middle of July. They are in a most deplorable state; and in no situation could dung or lime be got out, till every body was in hand with harvest work. They can scarcely therefore be got into decent order this season; which is an incalculable evil in a clay district, where so much, during the whole after rotation, depends on this primary process being substantially and completely executed.

'The quick start in the grain market, noticed in last report, in consequence of the injudicious interference of Parliament with the distilleries, was but of short duration; and most completely established the opinion then given, that although oats, from being originally a deficient crop, would of necessity continue high, yet that there was a very ample stock of wheat on hand to carry us on till harvest, and to make up for the deficiency of oats. If distillation from grain is not allowed to go on again, barley will be a very drug in the market. The property-tax business, after having excited a considerable sensation, and, at one time, a pretty strong appearance of a general cooperation through the country, seems to be quite at rest again. It is truly astonishing, the unaccountable apathy that has been so generally displayed in this matter, both by proprietors and occupiers of land. I suppose the point is now altogether conceded.'

Ross-shire Quarterly Report.

With little exception, we have had a summer as good as the heart of man could wish. It rarely happens that we have so great a portion of heat, which being attended with seasonable refreshing showers and dews, brought forward vegetation in the most rapid manner. Drought, however, threatened to overtake us about the middle of July; but wet, close, foggy weather set in about the 20th, which continued with scarcely any intermission for three weeks. The most of the hay crop being then only in ricks, sustained considerable damage; although, on part of it being carried, the latter end of last week, the injury was nothing like so great as was dreaded. Corn crops, in general, are good and early, harvest having commenced in many places, and several farmers will even have constant shearing, which is an uncommon circumstance in this quarter. The wheat crop is not, however, entitled to unqualified praise, as many fields are thin, and below an average. This, combined with the small quantity sown, will greatly lessen the quantity of that grain for market. Turnips, in most cases, promise to be an excellent crop; but, while we have so good a prospect of plenty of winter keep at home, and hear of abundant crops in the South, still, in the face of this, black cattle continue to decline in value. At Strathgarve market, yesterday, the show of cattle was not great. Sale was far from being brisk, at from 5s. 6d. to 6s. 6d. per Dutch stone, sinking the offal, according to fashion and condition. Highland wedders, rising four years old, sell freely at from 16s. to 18s. a head. Scarcely any corn was to

sell

sell during this quarter. Meal became very scarce, and advanced so high as 44s.; even 47s. was paid, per 9 Dutch stones; but so much has been lately imported, and the poorer classes now subsisting principally on potatoes, which are a very fine crop, that the price is already reduced to 36s., and will likely soon be much lower. —*August* 17.

Letter from Glasgow, 19th August.

'From the first of May to the end of last month, we had a tract of the finest, and at the same time warmest weather, which has been remembered here for many years. Under its auspices, every species of grain grew with wonderful progress; and we had reason to expect, together with an abundant crop, a very early harvest. About the latter period, however, we were visited with heavy falls of rain, which continued without intermission till the 10th of the present month. These have levelled with the ground a considerable portion of the strong grains, particularly wheats; and have, in some measure, disappointed our expectations of their arriving early at maturity. Some fields of barley, however, and, we understand, two or three of oats, have already been cut in our neighbourhood; and, if the weather continue favourable, such as it has been, especially since last Wednesday, we expect the harvest will be pretty general during the course of next week.

'Although some of the fields of wheat and oats, lodged by the rain, may be a little damaged, we do not imagine that any serious deficiency of either of these grains will be the consequence. On the contrary, we are of opinion that oats will be an abundant, and that wheat will be but little under an average crop. And this defalcation in the latter grain, it seems to us, will proceed rather from its thinness on the ground, than from any injury which it may be supposed to have received.

'Beans will be a tolerable crop; Barley abundant. Potatoes have a showy appearance; but we are sorry to hear a report that they are not so prolific as might have been expected.

'The importation of wheat from Canada, since our last letter, has not been considerable; and, from the very high price there of that grain, we do not expect many further arrivals this season. Should the embargo continue in the States, and no supplies be received from the Baltic, we are of opinion, that there must be a scarcity of old wheat through the winter.

'Vast quantities of oats have arrived here during the summer from Ireland, and fresh supplies continue almost daily to pour in. From the great stock of this grain on hand, and the prospect of an abundant crop throughout the country, we are inclined to think that the price, which has already suffered very considerable diminution, and still continues to fall, will be moderate for some time to come. Annexed you have a state of our market.

'State of Glasgow Markets, 19th August.

Dantzic Wheat	40s. to 43s.	p. boll Linlithgowshire measure,	
Foreign Red do.	38s. — 42s.		
Scotch do.	40s. — 42s.		
English do.	42s. — 43s.		
American do.	42s. — 44s.	do. of 240 lib.	
Irish Mealing Oats	30s. — 33s.	do. of 264 lib.	
Do. inferior do.	28s. — 30s.		
Scotch Potato do.	32s. — 33s.	do. Renfrewshire	do.
Do. Small do.	28s. — 30s.		
English Barley	35s. — 37s.	do. Stirlingshire	do.
Scotch do.	30s. — 32s.		
English Beans	39s. — 40s.	do. do.	do.
Scotch do.	34s. — 36s.		
Do. Oatmeal	32s. — 34s.	do. of 140 lib.	
Fine Flour -	68s. — 70s.	p. sack of 280 lib.	

Berwickshire Quarterly Report.

The heat of this quarter has been considerably above the usual temperature. Some heavy thunder showers took place in the first week of June, followed by five weeks of warm sunshine, with fogs in the night; but, towards the middle of July, the weather set in wet, and has continued variable and showery till within these eight days, by which the corn fields have been greatly lodged.

The whole wheat crop in this district appears to be more or less false in the top of the ear; in addition to which, the winter wheats have suffered most severely from the yellow rust, or blight, as it is called. All the early lodged fields became blackish, and, in several instances, proved so completely destitute of grain, that they were cut before harvest, and carried to the dunghill, the straw being totally unfit for any purpose whatever. Spring sown fields, though also infected, appear in general to have suffered but little comparatively. This malady began while the grain was in a soft milky state, at which period a great number of very small black flies were observable in the ears of the wheat; and when the yellow dusted chaff was laid open, and the grain inspected with a microscope, congeries of small yellow caterpillars appeared nestling therein, sometimes to the amount of twelve and thirteen in a single grain, which, in these cases, appeared entirely divested of its pulp.

Potatoe and Angus oats are good, but not so abundant in straw as they once promised. Polands are thin. Barley is universally good, and ripening equally. Beans are also a fair crop, where not attacked by the black insect; and peas, though in some cases thin, are everywhere well podded.

Turnips are good upon all the true turnip soils; but, upon retentive bottoms, they have of late got a sickly appearance.

The hay crop, which promised well before cutting, is now mostly got into the stack, though in a very damaged state; but there is every appearance of a luxuriant aftermath.

Pasturage

Pasturage has been good, yet few fat cattle have made their appearance at market; however, these few seem to have been fully equal to the demand. Beef has run from 6s. 6d. to 7s. 6d. per stone, sink; and mutton from 7d. to 8d. per lib. ditto, avoirdupois weight. Lean stock has all along been marketed with difficulty, and prices have in consequence been low. Hogs were from 15 to 20 *per cent.* below the rates of last year; and lambs, notwithstanding the numbers lost in the spring, were from 20 to 25 *per cent.* down.

Potatoes have a promising appearance; and young clovers seem healthy.

Most of the wheat fallows were caught at a critical stage by the rains, viz. while lying in the cross-furrow, which precludes the possibility of getting them now cleaned this season.

The wool market has been extremely dull; indeed, one half of the clip still remains on hand. The sales which have been made, may be stated from 25 to 30 *per cent.* below last year's price for long wool.

Harvest has, within these two days, become pretty general over the lower district of the county.——*Aug.* 20.

ENGLAND.

Account of Lewes Wool Fair.

Lewes, July 26, 1808.

Our wool fair never was more numerously attended, both by sellers and buyers, than it was this day. The buyers came full of arguments, derived from what was the state of some branches of the woollen trade several months ago, and by no means disposed to discriminate between the manufactures of fine and coarse wool: the sellers came disposed to take considerably lower prices than they had obtained two or three years ago. At dinner, every room in the house was full of company; and, not long after they had dined, they collected in the principal room, when

Lord Sheffield rose, and stated, That, preparatory to the meeting, he had not neglected to make every inquiry respecting the trade in wool and woollens; and the result confirmed the opinion which he had formed, that the manufacture of fine wool has suffered, comparatively, but little, in consequence of the machinations of foreign powers. The home market, including the whole of the British empire and its dependencies, takes nearly all the superfine manufactures, and by far the greatest proportion of every manufacture; and the best customers are the people of England, who consume much more superfine cloth than they used to do. The middling classes have found that finer cloths are the cheapest; and the opulent now use nothing but the finest, even for their great-coats. There may be a decrease in the export of second-rate woollens; but the countries to which we supply those articles, cannot long do without them. They will procure them circuitously; and we know, that neither an em-

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BARGO nor a NON-IMPORTATION AGREEMENT, will prevent our woollens from going to the American States, through different channels, as they did during the American war; and even at present, it is not the want of orders, nor the embargo, but the distrust which has prudently taken place in this country, in respect to the American States, that principally checks the export to that country.

As to the value of fine English wool, which is more particularly the object of the meeting, there is reason to believe that it will be at least as high, and probably very soon considerably higher, than it was last year, when it was reduced very much below the price of preceding years.

His Lordship then stated, That he was in correspondence with many of the principal persons in every part of England where there are wool fairs, and with those parts where are situated the principal manufactories of wool. The fine wools that were sold within a few months past, readily found a market at last year's prices; but there was very little demand for the coarser wools. The general opinion is (particularly in the west of England), that the price of fine wool will exceed that of last year; and that coarse will not attain last year's prices.

There was scarcely any business done at Ashford, Thetford, and Colchester fairs. At Colchester and Thetford there were many buyers present, but the growers would not take less than 2s. 1½d. per lib. Not much business was done at the Herefordshire fairs; but the fine wools of that county were at about 3d. (some accounts say 6d.) per lib. lower than last year; and coarse wools in those parts were not in demand. All dealing seems to be suspended. No sales have taken place with any degree of regularity. Great alterations are expected in the trade to Spain, Portugal, and Russia, and that there will be a wonderful alteration in the price of wool. However, Mr Wilbraham of Delamere Forest has sold his wool, nearly the same quality as South Down, at 2s. 6d. per lib.; and Mr Curwen of Cumberland has been offered the same price for his South Down. The import of foreign wool essentially affects the price of fine British wools. The bad policy which prohibits export, and encourages the import of the refuse wools of Spain, Portugal, and Germany, greatly checks improvement in the quality of British wool, and sacrifices the agriculture of the country, wool being treated differently from all other articles of commerce, and not allowed to find its real value at market; to which alone is to be attributed the debasement which took place in the quality of our wool; for it is well known, that the wool of these islands was much better before the export was prohibited, and import encouraged, than it has been since. These importations of inferior wools have always operated severely against English wools of a similar kind to South Down; at the same time, there is no doubt, that Sussex, Hampshire, and Dorsetshire alone, if encouraged, could render us independent of other countries for the raw material of our great staple manufacture of wool,

wool, and save an immense sum yearly to the nation. The import of wool last year, if on an average worth 5s. per lib., amounts to 2,940,000*l.* The import of wool in 1807, amounted to 11,760,000 lib.; but that was a most extraordinary importation, probably occasioned by the apprehension of the impending storm in Spain. Previously to the French revolution, and the consequent destruction of the manufacture of fine wools there, our importation never had exceeded four millions of pounds, and sometimes was not more than one million; but, in 1800, the import arose to 8,500,000 lib.; and last year, the import from the south of Europe alone was 10,693,088 lib., which is not far short of double that of the preceding year, viz. 5,964,672 lib., although that exceeded the average importation.

Upon the first appearance of Bonaparte's projects in Spain, the manufacturers of Spanish wool in the west of England bought very eagerly at 6s. 9d. for the best piles, and so in proportion for inferior; until, by their purchases, and those of speculators in the article, nearly the whole import of last year has been sold by the importers; nevertheless, there are at this moment several thousand bags of Spanish wool (some importers say, at least 15,000), in the hands of the Blackwell-Hall factors, and of others who have become speculators, which they hold ready for sale whenever a good price can be obtained; and, for some of those now on hand, 7s. per pound have been refused, and 8s. demanded. The prospect, however, has since very much changed; and it is not improbable that a considerable quantity of Spanish wool may find its way to England in the course of the year; but much below the usual quantity, as she had sent every thing away except the clip of this year. At present, however, Bilboa (only a few leagues from France), from whence comes almost the whole of the Spanish wool, is occupied by the French; and the war, now in the heart of the country, must necessarily derange its commerce. Many of his correspondents complain of the prejudices, and of the want of knowledge and discrimination, on the part of the wool buyers, who refuse an adequate price for English grown wool of the finest qualities; they not adverting to the circumstance, that the improvement of English wool will uniformly keep pace with the improvement in price. This lowness of price has induced several to send their wool to Ireland. Mr Western of Essex sent his wool of last year there. It was damaged by sea-water, in the opinion of wool-sorters, to whom it was referred, 1s. per pound; yet it was sold by auction, even under these circumstances, at 3s. per pound. At the Dublin public sale in March last, the Marquis of Sligo's pure South Down wool sold at 4s. per pound; Mr Wynne's at 3s. 9d.; Mr Grierson's at 3s. 10d.; and Mr Symes's at 5s. 4d. per pound, Irish currency, which is one penny in the shilling less than English. It is now proved most satisfactorily, by the experience of the last 20 years,—and the country is greatly indebted to Mr Tollet, Dr Parry, Lord Somerville, Sir Joseph Banks, and others, for their judicious experiments and proofs,—that

wool

wool may be grown in England equal to any that is usually imported. Mr Tollet has lately sold, to the same person who has bought his wool for several years,

115 Merino fleeces, weighing 505 lib. at 4s. per pound;

856 fleeces, mixed breed, weighing 3373 lib. at 3s. per pound;

—that is, 606*l.* 19s. (ready money) for the fleeces of 971 sheep, being the same prices he obtained last year. The Merino wool sold at 4s. was washed on the sheep's back, in the usual manner; but when washed again, without sorting, to the state in which Spanish wool is imported, it sells for 6s. per lib.

The manufacture of superfine cloth, as already mentioned, has by no means suffered in consequence of the deranged state of Europe; in particular, at Bradford, in Wiltshire, it has been carried to a pitch never known there before. About three or four weeks ago, his Lordship had visited some of the most extensive and best manufactories (and very excellent they are), in Gloucestershire; and he was everywhere told that they were not affected by the war, they being fully employed in the country trade.

The increased consumption of Spanish wool in our manufactures will require an increased supply; therefore, supposing the ports of Spain to be open to us, the supply which we shall receive this year, (certainly not so abundant as usual), added to the extra quantity imported last year, will not exceed the demand so much as to reduce that article below the usual price; and not a lock of wool can be expected from the north of Europe, from whence we have latterly received about 750,000 lib. annually. His Lordship was sorry, however, to learn that the woollen manufacture of Yorkshire has lately been by no means in so prosperous a state as in the West of England; but a very considerable quantity of the second rate manufactures of wool has certainly found its way to foreign countries, and every day the demand has increased. Indeed, all the enemies to British commerce, will never be able to prevent their going where they are wanted, as soon as there is time to contrive the means. But if the exertions of the glorious people of Spain should succeed, as every friend to mankind must wish, the export to Spain and Portugal, and consequently to every part of South America, will raise the woollen manufacture of England as high as it has ever been; and perhaps, at first, still higher, to make up the deficiency in the supply of woollens for some time past; and the state of the Continent of Europe must prevent all competition. It is reasonable, therefore, to suppose, that the price of fine wool especially, should not be lower, but higher, than it was last year; and if the liberation of Spain should take place, and France and the United States should be tired, as it is supposed they are, of the silly attempts to prejudice the commerce of this country, there is no reason to doubt, that the demand for every kind of woollen will be much greater than it ever has been at any period.

This statement was acknowledged to be fair and candid; but, notwithstanding

notwithstanding there appeared to be less difference of opinion between buyers and sellers than usual, they did not immediately agree. The wool growers demanded from 2s. to 6s. per tod less than they demanded at our fair last year; and from 1s. to 2s. more than they had since received. There is every reason to believe, that the good wool will sell from 2s. to 2s. 6d. per lib., and some higher. Lord Sheffield exhibited specimens of fine wool grown in England, by Mr Tollett of Swinnerton-Hall, Mr Portman of Dorsetshire, and Mr Hall of Leigh Court,—some pure Spanish, others of mixed breed,—and also made several communications in favour of the Spanish breed: That the frame of the Merino sheep is rapidly improving; and that a three-year old Merino Ryeland wether, bred by Mr Tollett, weighed 33 lib. per quarter, and his fleece 5 lib. of superfine wool.

The health of the founder of the fair was drank; and of the Duke of Bedford, and Mr Coke, preeminent friends of agriculture; also of the Lord Lieutenant, the Duke of Richmond, the Earls of Egremont and Chichester, Sir Joseph Banks, &c. &c.

Copy of a Letter from Mr Francis Blaikie, Bailiff to the Earl of Chesterfield at Bradby-Park, addressed to Sir John Sinclair, Bart.

Bradby-Hall, July 9th, 1808.

'I AM induced to submit to your consideration the following statement, and the result of experiments on the smut in wheat, under a supposition that, though the discovery is not perhaps new, yet that it is not generally known. If you should think my observations worthy of your attention, and deserving of being made public, I shall feel satisfied in having contributed my mite towards the improvement of my country in its nearest and dearest interests.

'I was led to make the following observations, from having, for several years, observed by the public papers, that on the approach of harvest, there has uniformly been a complaint of the smut in wheat in certain districts; and also having, from local observation, heard one farmer complain of the smut in his wheat crops, while the adjoining farmers' crops were perfectly free from it.

'One farmer sits down contented with his crop of smutty wheat, under an idea that it has been caused by something pernicious in the atmosphere. A second thinks it is owing to the nature of the soil, which, he says, always grows smut. A third (better informed) says it is owing to the seed, which, though brought from a distant district, *for change*, and appearing to be pure seed, yet produced smut. He therefore concludes it is of no use to change the seed, as he is still liable to buy smutty wheat. Various other causes are also assigned for the disease; but these are unnecessary for me to mention.

'It has surprised me much, that sensible practical farmers and agriculturists, should still remain so much prejudiced (even against their own interests) as not to endeavour to eradicate this pernicious disease, which it is certainly within their power to do. The means by which I think it possible to accomplish so desirable an object, are, *first*, To impress on every agricultu[illegible] mind that the disease originates

originates with the seed; *secondly*, That it is in a high degree infectious; and, *thirdly*, That the same preventive and cure is to be effected by proper care and attention to the established practices of well washing and rinsing, or pickling, the seed.

'It has been found by experience, and is pretty generally known, that smutty seed will produce smutty crops. But, I believe, it is not generally understood, that the most smutty seed, by being properly cleaned, will produce clear crops. Such, however, is the fact; and I have found, that the purest seed will (by being inoculated) produce smutty wheat. It is for naturalists to assign a cause why the disease should be infectious; but it is sufficient for the practical farmer to know that the fact is established; and it is in every one's power to satisfy himself on that point.

'Many farmers have felt themselves disappointed in not having the wheat crops clear of smut, after being at the trouble and expense of changing seed, and even washing and brining that seed; not being aware of the infectious nature of the disease, and that the very means they were taking to clean the seed, was also perhaps the means of inoculating it with smut. For, after the operation of pickling is performed, the seed is generally spread on the barn floor to drain, and probably on the same floor where smutty wheat had previously been thrashed; or, perhaps, the seed is put into sacks in which had been smutty wheat but a short time before. The inoculation is then complete; the seed is sown; the produce will invariably prove smutted; and the farmer feels himself disappointed after all his trouble and expense.

'It would also be prudent in every farmer to see to the washing and pickling the seed himself; for, if he trust that operation to servants, he will generally find himself disappointed.

'I have known some farmers sow the same wheat for a succession of years, and with very little preparation, or cleaning the seed, yet have no smut in their crops: So they may with safety continue to do, so long as they keep clear of the infection, by not borrowing or lending sacks, by change of barn, of implements, &c. The infection is also probably carried from the barn-door, when the dung is taken green to the fields, without being properly turned and fermented. It is likely there are various other ways by which the infection is communicated, but which the careful farmer will guard against when he becomes more sensible of the contagious nature of the disease.

'I shall now state the result of two experiments made in the last and present years, 1807 and 1808, on Bradby-Hall Farm, *County of Derby*, the property, and in the occupation of the Right Honourable the Earl of Chesterfield, which experiments were patronized and inspected by his Lordship.

'1*st*, In the autumn of 1806, Lord Chesterfield bought a peck of very smutty wheat from a neighbouring farmer (who had that year great loss in his crop from smut). A piece of land being set apart for the experiment, one half of the wheat was sown in the state in which

which it was bought. The result proved, as might be expected, two thirds of the produce being smut.

'The other half peck was washed as clean as possible, changing the water three times, and then put into a brine, (strong enough to carry a new laid egg). It remained in the brine two hours, being stirred up twice in that time. When taken out, it was dusted over with quicklime, and sown on the other half piece of land. The result proved entirely satisfactory; for it produced a full crop of fine wheat, without a single ear of smut.

'*2d*, Last autumn, Lord Chesterfield (by way of change in seed) had the whole of his seed wheat from Dunstable. It was fine, and perfectly free from smut. Six ears of smut were saved from the preceding year's experiment. They were put into a small bag, and rubbed therein. The smutty grain was carefully shook out of the bag, so that there only remained the black dust. A quart of Dunstable wheat was then taken, (and, though perfectly clean at the time), was washed in three waters, and put into the smutty bag for inoculation. It was shook in the bag, (in which it remained two days), and was afterwards sown. The result is highly satisfactory in proving the effect of inoculation, as a very great proportion of the produce is entirely smut; while, out of 20 acres sown with the same seed (not inoculated), not one smutty ear has been found, although carefully examined for that purpose.

'The experiment of last year was shown to many gentlemen and neighbouring farmers; and the one of the present year now remains for inspection.

'The inoculated wheat, when reaped, will be carefully thrashed, and the produce kept, to show to any person who may, from the preceding observations, think it worth examination.

'Since the advance in the price of salt, the expense of good brine for pickling the seed wheat, has become a consideration to farmers; and, in consequence, various substitutes have been adopted, frequently not efficacious. It would be very adviseable, that, in addition to all other precautions, the seed should be well washed, and all refuse skimmed off.

'The following statement will prove the accuracy of the foregoing observations.

'In the autumn of 1805, having finished wheat seed on Bradby-Hall Farm, I advised a neighbouring farmer to send for pickle which was left. He had suffered much in former years from smut; and, previous to his sending for the pickle, had that year sown half his wheat seed, *brined in his usual way*. The remainder of the seed was well washed, was pickled, and proper precautions taken in the manner I directed. The result was satisfactory; for the crop, from the first sown, proved full of smut; whereas, there was not one smutty ear to be found amongst the latter sown.

'I shall feel happy, if any part of the foregoing statements be found worthy of your attention, as, perhaps, it may in some measure excuse the tediousness of the detail.'

Wiltshire

Wiltshire and West of England Quarterly Report.

THE appearance of the wheat crop is at present good, being greatly improved by the late warm weather. In the district where barley is principally grown, that grain is considered as promising an abundant return. The oats are much blighted. Beans suffered from the want of moisture; and, though making a good appearance some weeks since, are now likely to be a middling, or rather a defective crop. The peas are generally equal to an average.

The produce of hay and clover is large, and generally taken in well. The late dry hot weather has been unfavourable to the turnips; consequently favourable for the other fallows.

Prices of grain—Wheat, 76s. to 84s.; Barley, 36s. to 44s.; Oats, 36s. to 44s.; Beans, 66s. to 70s.; all *per* quarter.

No markets yet for sheep. Lean cattle have sold at prices inferior to those of last year through most of this season. Fat cattle sell high.

Prices of shamble meat—Beef, prime, 7½d. to 8d.; Mutton, 8d.; Veal, 8d. to 8½d.; Lamb, 8d.; all *per* lib. avoirdupois.

There is some difficulty in ascertaining the price of wool for this year, as it is yet early in the season; but, according to the best intelligence, long wool is selling at about 20 *per cent.*, and fine Herefordshire about 10 *per cent.* lower than last year. Little done yet in Wiltshire wools. It seems improbable that they will bring as much as last year, viz. from 15d. to 18d. *per* lib. short wool; South Down, 18d. to 22d.; but if the newspapers may be credited, a considerable advance took place in the late fairs. Plentiful rains have lately fallen.——*29th July.*

Letter from Wales, 2d August.

'THE summer in this quarter of the island has proved very favourable, and, at present, there is an appearance of a good crop of corn of all kinds. The hay crop is greater than for many years past; and the produce of the early and best grounds has been got in, in good condition, the weather having continued fine till the 14th of July. That night we had the most dreadful thunder and lightning ever remembered in this country, accompanied with a very heavy rain and hailstones, which beat down the wheats in every shape; and I fear we shall have a great deal of work, and but few hands to cut it up. Since the rain commenced, the weather has been very unsettled, scarce a day fair to an end, which has placed the late hay in a bad state. This day is fine, and I hope there is going to be a change, as the corn is in general ready for the sickle. Some people have just begun to cut patches where it is much laid; and, by the beginning of next week, the harvest will be general through the Vale of Glamorgan. The wheat and barley will furnish a great bulk of straw; but it is hard to say how they may turn out in the barn, being so much laid. There is every appearance of a fine crop of oats, also of peas and beans. The peas are mostly cut, and a great deal will depend on the weather during this month. The turnips have but a poor appearance at present, the fly having prevailed so much through

through the country, that hardly a good field is to be seen. Potatoes, of which there is an uncommon quantity planted this year, look as if they would give an abundant return. More are already come to market than can be sold. The quality is very fine. We have but a thin crop of apples; but what there is, looks healthy. There is little of any other kind of fruit. Butter and cheese still hold their price; and butchers' meat rather on the advance than otherwise; but the demand for store cattle seems to be over for the present; indeed, prices have been on the drop ever since the month of May. Store pigs are a mere drug: we have such numbers from Ireland by the ships that come for coals, that our trade in that article is quite ruined. Store sheep and lambs are also much reduced in price. Lambs, that last year were worth 18s., are not now worth more than 14s.; and wool is cheaper by 5s. in 21 pounds. Best wheat, by weight, 28s. for 168 pounds. No other grain at present at our market, and little of any kind in the country. I have no doubt, if the weather is good, but we shall have new wheat, barley and oats, at market in a fortnight.'

Northumberland Quarterly Report.

THROUGH the whole of May to the middle of June, we had remarkably fine, fresh, mild, growing weather; and from thence to the middle of July, uncommonly hot and dry. On the 20th, we had the first rain; since which, it has continued almost constantly wet, calm, hot and sultry; by which hay is materially injured, very little being secured before the wet set in.

The wheat crop, previous to the rain, was everywhere looking healthy, and promising abundance; but the scene is now changed, and the prospect is unhappily reversed. The great crops are mostly lodged by the heavy rains; and there are few fields to be found free from the ravages of the small yellow maggot, that did so much mischief a few years since, by destroying the germ soon after the plant had flowered. There is also great appearances of the rust or fungus on the straw; and the general opinion is, that the wheat crop will be a very failing one through all this district.

Barley is in general an abundant crop, in many places ripe, and will be cut before the early oats, which is not often the case here. Oats upon dry lands have been injured by the drought; but, on the whole, may be taken at an average crop. Peas and beans are well podded, and will be early harvested. The dry weather proved very favourable to these crops; and they will, of course, be more than an average.

The turnips and ruta baga that were sown early, and while there was a sufficiency of moisture in the ground, are very good; but the greatest part of what was sown later, did not vegetate until the rain came. These are not looking well at present; but if the autumn be favourable, they may get to be a tolerable crop for spring food.

Markets for live stock continue very indifferent. At Yetholm fair long woolled lambs were sold for 12s. to 15s. Three years since,

lambs from the same flocks sold for 21s. to 25s. The wool trade has been exceedingly dull, and prices low. At the beginning of the season, not more than 8d. *per* lib. could be had. At present there is a small advance. Some parcels have been lately sold for 9d. and 9½d. *per* lib., which is much short of the prices obtained of late years.

Corn markets are on the decline. Oats, which a month since were sold at 7s., are now fallen to 5s. *per* bushel.——*5th August.*

Letter from Lynn, 10th August.

'Some little time ago the crop of wheat in this district promised to be a good one; but, in the course of the last fortnight, a mildew has taken place, and four fifths of the crop are most materially injured thereby, the straw having become quite black, whilst the kernel is dwindled into a lean and shrivelled condition. Barley and oats promised also to yield an abundant return; but they are partially affected also by mildew, and by the severe drought. Still they will be good crops. Of peas, not more than half the usual quantity were sown, and of that half many are very bad. Beans will not at all be more than half a crop: the very intense hot sun actually parched the blossom at the top of the stalk, and there are but few pods. Very little rapeseed grown this year; but a good deal of mustard.'

Yorkshire Quarterly Report.

The state of the weather, after spring seed-time, was such as to appear threatening to the vegetation of the crops of the various kinds of grain committed to the ground. The unremitting severity of the spring frosts, it was expected, would cut off every blade as it appeared above ground. Yet nothing seemed to suffer materially from that cause, except the peas, some fields of which have failed. The unparalleled richness of the succeeding season, when summer at once burst forth in its highest splendour, made ample amends for every previous defect. Indeed, the effects on every species of growth, were almost like those attributed to magic, such was the uncommon rapidity of its progress. The succeeding plentiful rains for some time suspended the work of turnip fallowing, so that they were likely to be put into the ground when in a very imperfect state of preparation; and when drought ensued, such was the hurry to get them sown, that it was surprising to see the fields green with turnips a very few days after they were fit for working again. Indeed, the early sown crops are by much the most promising; those sown later on light, sandy and gravelly soils, have many of them failed; and, on resowing, are not likely to be of much value. On fertile loams, there are some very good crops; but on limestone soils, the failure is most apparent. The heat of the weather was too powerful for them in general.

Summer fallows are not in the most advanced state of culture, notwithstanding the opportunity seemingly offered by the hot weather of June and July. That time was fully occupied by the turnip fallows and the hay-leading; insomuch, that if the present showery season

season continue much longer, the remaining fallowing work that can be done, will make but a very indifferent preparation for the autumnal wheat sowing.

The crops of hay and clover have been in general good, and remarkably well secured; except in the more mountainous parts of the county, where much will be spoiled, being yet out. A bad practice prevails of feeding sheep on meadow lands till the middle or latter end of May, from which late reaping is of course inseparable.

Wheats of this district, though extremely thin and unpromising after the spring frosts, gathered strength so uncommonly during the fine weather afterwards, and their flowering season also seemed so completely past without rain to impede the full fructification of the grain, that well-founded hopes were formed of an exuberant crop. But, alas! after the heats, a very few days of showery weather, with thunder and lightning, have brought on a melancholy reverse. In short, the most extensive and destructive mildew has taken place in every circumstance and situation, aspect, soil and management, that was ever known. In many cases, hundreds of acres have been reaped, and carried to the dunghill, the ears affording no grain that can be thrashed out.

The crops of barley are generally good, though much lodged. Oats and beans are of middling produce. Peas a failing crop. Rye a pretty good one. Potatoes appear productive; and, of course, this crop is likely to be very valuable. Some oats and barley are already cut in various parts of the county. Had wheat escaped the mildew, it would have required about two weeks time for ripening. As matters are, it seems of little consequence when cut; yet perhaps the earlier the better.

The price of grain is upon the advance, which, under present circumstances, is not at all to be wondered at. The best wheat is about 12s.; rye, 8s. 6d.; barley, 6s.; oats, 6s. 6d.; beans, 8s. 6d.; *per* bushel of Winchester. Potatoes, 4s. *per* ditto, upheaped.

Fat and lean cattle, and sheep, are now selling rather better than for some time past. Pigs are lower. Beef, 8d.; mutton and veal 7½d. *per* lib.; butter, 1s. 3d. *per* lib.—Good horses are dear; ordinary ones not very saleable.

Fine wool is not much lower than last year. Coarse long wool is selling at a price much inferior to that of the same period. The after-grass pastures, seeds, &c. are much improved by the late rains; so that, on the whole, no fear is entertained of any want of food for cattle.—*Aug.* 10.

Lincolnshire Quarterly Report.

Seldom has the weather proved more favourable for the deep and fenny lands of this district, than in the present year; and, by consequence, every kind of crop thereupon produced, displayed the finest appearance in the middle of July that can be imagined. The rains which afterwards fell, impaired the prospect considerably, and caused such a lodging of the grain crops, as to augment the expense of

harvesting very much. Harvest is going briskly forward, so far as hands can be procured, though it is to be dreaded that not a little of the grain will be lost for want of reapers. In the fens, 25s. per acre, of 160 poles, is paid for the cutting of oats, and should more hands not arrive from Ireland and Scotland, the most serious injury will be sustained by many people. In the fens, many of the farmers are new at their present business. They were all graziers before the enclosures were made, and, of course, are not adepts at corn husbandry. Upon the opposite side of the county, namely, from Gainsborough to Hull and Barton, the land has been ploughed upwards of a hundred years, and plentiful crops of hemp, flax, potatoes and wheat, obtained. Indeed, the same remark is applicable to the Wolds; with this difference, that the crops usually taken are turnips, barley, clover and wheat. In this way, the land is not turning worse, but rather better and better, as the fallows are regularly manured, while the weak and sandy soils are strengthened by marl.—*August* 11.

Norfolk Quarterly Report.

THE fine continued rains during the latter end of May and beginning of June, caused the hay crop to be more abundant than has been remembered for many years, and the season for making it was never finer, though the *eddishes* suffered greatly from the severity of the after-drought. The late fine rains have, however, made a great alteration in the appearance of those grasses; and at this time there is a fine prospect of autumn feed. The season for sowing turnips was excellent, and the genial showers at the time of sowing, brought the young plants quick away; but, in some parts of the county, (and that to a very great extent), they were taken off by their destructive enemy the fly; therefore, many farmers were obliged to sow a second time. The prospect of this second sowing is not amiss, though it is not likely the crop will be fit for the hoe these three weeks; therefore the roots cannot be expected to come to a full size. Where this valuable root escaped the ravages of the fly, it never looked in better health, nor more vigorous. Considering the abundant crop of hay, the fine appearance of the potatoe and turnip crops, a full supply of winter food for the cattle may be depended upon. The fall of lambs was abundant; those already brought to market, which are chiefly twin and tail wedder lambs, half breeds, Down and Leicester, have sold from 14*l.* to 18*l.* per score. Fine short wool sells as high as 58s. per todd. The wheats are but thinly planted, and suffered much from mildew and blight. It is certain, that both in quantity and quality, they are far inferior to those of last year. Barley and oats are good crops, particularly the latter; and the breadth of oats sown this year, exceeds that of any preceding one. Peas are a short crop, but few are now sown. Lean cattle have not fetched prices equal to late years. Store beasts were bought in, at the rate of 4s. per stone, when fat. The price of Beef and Mutton has continued pretty steady, say from 8s. 2d. to 8s. 9d. per stone, for fine quality; Pork, 7s. 6d. to 8s.; Veal, 7s. 6d. to 9s.

9s. 4d. per stone of 14 lib. Our harvest is become pretty general, but little grain of any kind yet housed, the weather continuing very unfavourable for that work. The weather, however, is quite suitable for what is called bastard fallowing; and the lands in that sort of preparation will, in all probability, be put in good condition for receiving the seed.—*August* 12.

Letter from the East Riding of Yorkshire, August 15.

'Since the date of my last letter to you, the weather was so far favourable to the growing crops as to cause them to appear tolerably promising, till about a fortnight ago, when wheat was discovered to be affected with the mildew. It was at first but little noticed, but the disease has now gotten to an alarming pitch; that, together with the heavy rains that have fallen, and beat down the crops as flat as they can be, will cause a very considerable drawback upon the profits of the farmer, and a great deficiency in the supply at market. The quality will be very indifferent. Indeed the crop of wheat may be stated to be considerably below an average, and full one third below what might have been expected. The oat crop will be near an average. Barley will be very abundant; and beans will be below an average near one fourth. The fallows are in a shabby state, in general, as there has not been a sufficient length of dry weather to get them cleared. Turnips are very variable. Where they have been sown early enough to get into strong plants before the hot weather commenced in the middle of June, they are very good; where that has not been the case, they are very indifferent. Harvest work began with early oats on the 1st and 2d instant, and with wheat on the 5th instant. The price for reaping is high, 16s. and 18s. per acre being paid in many instances. The crop of hay is good; but much of it was rotted before it could be carried. The cattle and sheep markets continue very low. Fat is selling at 6s. 6d. and 7s. for beef, sink; Mutton, 6d. per lib.; Lamb, 6d. per lib.'

Letter from London, 17th August.

'Since last report, the trade of this market has been, in a great measure, confined to the intercourse of the out-ports of the kingdom; the only exceptions being, in the arrival of a few cargoes of oats from Ireland and the Continent, and the shipment of a little English and some American flour (from under the King's Locks) to our West India colonies. The supplies of grain of all kinds have equalled the demands of the season; and the fluctuations in the trade, in general, have not been great. During the quarter, commencing the 4th April and ending 2d July, the average weekly quantity imported in ships appears to be, of

Wheat -	6137 quarters.	Oats -	16,313 quarters.
Barley -	2655 do.	Beans -	1302 do.
Malt -	2654 do.	Peas - -	205 do.

These, it is to be observed, are exclusive of flour, malt, and various other articles which arrive in considerable quantities by inland navigation.

navigation. Since last report, wheat has advanced 4s. to 5s.; Barley and malt, 2s. to 3s.; Grey peas have declined, 10s. to 12s; White peas, 30s. to 40s.; and Oats, 3s. to 4s. per quarter. There are no great stocks of any species of corn here. It is understood, however, that the quantity of wheat in the country is pretty considerable, and that all other sorts (especially barley) are a good deal exhausted.

'In the counties around London, the harvest has been begun two or three weeks ago; but its progress has been interrupted by the rains that have fallen. The accounts of the crops are not flattering, but yet not of a nature to cause despondency. The wheats in almost every county, particularly where they are luxuriant, were beaten down by the rains in the end of last month, and have been attacked by mildew. In the light lands a white blight has appeared, and sprouting and smut are also complained of. Upon the whole, therefore, we must not look for either the quantity or quality of the last crop. Barley promises to be an average crop, but it has suffered from the rains; and the complexion and quality are likely to be coarser than last season.

'Oats, on good lands, promise abundance, but are deficient on light soils. Beans and peas were improved greatly by the rains; and, though both are short in quantity, the quality may be good. Rye is a middling crop. The hay cutting around town was very productive; and there is at present abundance of green food, with the appearance of plenty of all kinds in the fall.

London Prices, 15th August.

Wheat, White	82s. 86s. 88s.	per quarter.
——— Red	80s. 82s. 83s.	
——— North Country	75s. 76s. 80s.	
——— Dantzic and Koningsberg	74s. 76s. —	
Barley, Norfolk and Suffolk	45s. 46s. 47s.	
——— North Country	44s. 45s. 46s.	
Malt, Norfolk and Suffolk	72s. 74s. 78s.	
Rapeseed (new), per last of 10 quarters	39*l.* 40*l.* 41*l.*	
Rye	49s. 50s.	per quarter.
Hay	6*l.* 6s. to 6*l.* 15s.	per load.
Clover	6*l.* 10s. to 7*l.* 7s.	
Beans, Pigeon and Small	60s. 62s. 64s.	per quarter.
——— Ticks and Large	58s. 60s. 62s.	
Peas, White Boilers	84s. 90s. 100s.	
——— Hog or Grey	52s. 54s. 55s.	
Oats, Potatoe	42s. 43s. 44s.	
——— Polard	42s. 44s. 45s.	
——— Feed	36s. 38s. 39s.	
Flour, English, per sack	63s. 65s. 70s.	
——— American, per barrel of 196 lib.	45s. 46s. —	
Tares (winter), per bushel	18s. 20s. —	
Straw	2*l.* to 2*l.* 5s.	per load.

IRE-

IRELAND.

County of Dublin Quarterly Report.

A SEVERE winter here was ſucceeded by a late ſpring; but, though the weather was cold, the ſpring corns were ſown upon a dry bed, and the ground wrought kindly. The paſture graſſes being ſo late, cauſed a ſhort ſupply of fat for ſome time; and butchers' meat was higher in May and June than uſual. The markets are now better ſupplied; of courſe prices are falling. The meadows had a very unpromiſing appearance at May-day; but the ſeaſonable rains about that time, being ſucceeded by remarkably fine warm weather, has produced an abundant crop of hay, which has been nearly all ſaved in fine condition, and at much leſs expenſe than laſt year. Potatoes, where not infected with the *curl*, promiſe well; and, from the extended cultivation, the crop of them muſt be above the average. From every part of the country the moſt flattering accounts of the corn crops are received, but much depends upon the harveſt, as from the weighty appearance of the crops, wet weather might do much injury. Indeed the grain raiſed for many miles round this city will not ſtand till fully ripe in a moderately moiſt ſeaſon. This will not appear extraordinary, when the mode of farming is conſidered. Corn is but a ſecondary object; and, from the bad ſucceſs in raiſing it, thought not worth attending to. Hay is the principal object, of which weighty crops are raiſed by the force of dung. Manure is cheap, and every ſecond or third year from forty to ſixty tons of dung are laid upon an acre. The lands would be continued in this ſtate for ever, were it not that potatoes muſt be had; and though the culture of this eſculent requires much more labour, yet it is ſaid by ſome that they pay better than hay. When a meadow is broken up for potatoes, it is probably the third year after being dunged on the ſward. The potatoes are planted on the ſod, with a ſufficient quantity of dung, in *lazybeds*. As they make their appearance they are *ſpitted*; that is, the earth is thrown upon them with a ſpade out of the intervals. This is repeated twice or thrice, which buries the weeds, and renders weeding of the land unneceſſary. The field is continued in potatoes for ſome years, receiving dung every year. It is then found that the potatoes open, and turn black in the heart. It becomes neceſſary to have the land reſtored to meadow; and this is the ſtate the lands are in upon which any corn is attempted in the vicinity of this city. In ſhort, not one year in ten does the grain ripen, but rots upon the ground, and ſpoils the young graſſes. Hence ſome lay down their lands without ſowing corn; but ſeldom produce marketable hay the firſt year, as annual weeds bear too great a proportion in it. The ſecond year is generally free of annuals; and the hay has then only to be picked clean of wild parſnips, and other ſuch large growing plants, to make it marketable. It is not uncommon to pick out half a ton of the ſtems of parſnips, &c. from an acre of hay, and ſtill leave from two and an half to three tons of herbs and graſſes of all deſcriptions. Farmers from other quarters think the lands here might be managed to greater advantage; but

but the people will not believe them, saying, that they pay the highest rent in the kingdom by such management; which shows that it is not so bad as foreigners think.

Markets in Dublin are as follows.

Wheat, 48s. per 2¼ cwt.; Barley, 35s. per 2 cwt.; Oats, 25s. to 27s. per 1¾ cwt. Beef and mutton have fallen from 10d. to 6d. per lib. of 16 oz., and continue to look down; Lamb, 4d.; Veal, as in quality, from 3d. to 8d.——*July* 18.

NOTICES TO CORRESPONDENTS.

THE *Essay on Smut, and other Diseases which affect Wheat*, came too late for this Number, otherwise would have been immediately presented. In our next publication, room shall be reserved for its appearance.

Our good friend A. S.'s *Remarks on Sheep-Smearing*, though not altogether to our mind, shall also appear. We have often thought that this gentleman is rather disposed to be sceptical on several points almost positively established by the experience of centuries.

The ABERDEENSHIRE CLOWN has mistaken our meaning. We did not reject his paper, but requested his address, merely that some particulars concerning the management of the Magazine, alluded to by his friend, might be satisfactorily explained in a private communication. His last favour is under consideration.

We thank the gentleman in Dublin who sent us the *Remarks on Distillation from Sugar*, and shall not fail to use them with the first conveniency.

It is very probable that a part of the observations signed, '*A Lover of Truth*,' may appear in next Number; but we cannot engage for the whole of them.

Many other communications are received, for which our best thanks are due.

No. XXXVI. will be published on the first Monday of December. For reasons unnecessary to be mentioned, this Number, instead of being published on 15th August, as formerly intimated, was delayed till Monday, 5th September; a delay which enabled us to procure a more correct account of the current crop than could otherwise have been obtained.

Erratum in last Number.—Page 233, 21st and 22d lines from top, instead of *five hundred thousand quarters of wheat*, read *one hundred thousand quarters of wheat, and two hundred and eighty thousand barrels of flour.*

Erratum in this Number.—Page 332, in the 11th line from top, for 1808, read 1803.

D. WILLISON, PRINTER, EDINBURGH.